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DDN PROTOCOL IMPLEMENTATIONS AND VENDORS GUIDE

AUGUST 1987

DDN

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AUGUST 1987

Editor

Francine Perillo

Additional copies of this document may be obtained from the DDN Network Information Center, SRI International, 333 Ravenswood Avenue, Room EJ291, Menlo Park, CA 94025. Price is $30.00 domestic, $35 overseas. Copies may also be obtained from the Defense Technical Information Center (DTIC), Cameron Station, Alexandria, VA 22314.

It is the intent of the DDN Network Information Center (NIC) to make the DDN Protocol Implementations and Vendors Guide widely available to subscribers of the DDN. The Guide may be obtained in hardcopy or machine-readable form. Hardcopy is available from the NIC for $30.00 ($35.00 overseas) to cover the costs of reproduction and handling. Send check or purchase order to the DDN Network Information Center, SRI International, Room EJ291, 333 Ravenswood Avenue, Menlo Park, CA 94025. Copies are available online to DDN users who have access to the file transfer services, FTP or KERMIT, using pathname NETINFO:VENDORS-GUIDE.DOC. The online file is updated on a continual basis. The hardcopy version is published twice a year in February and August.

DDN Protocol Implementations and Vendors Guide. Printed and bound in the United States of America.
Published by the DDN Network Information Center, SRI International, Menlo Park, CA 94025.

Date: August, 1987

NOTICE

The DDN Protocol Implementation and Vendors Guide is for informational purposes only. Inclusion of an implementation or product in this Guide does not constitute an endorsement or an official recommendation on the part of the Defense Communications Agency (DCA), the Defense Advanced Research Projects Agency (DARPA), the DDN Network Information Center (NIC), or the Department of Defense (DoD). Omission of any vendor or implementor has no significant implication, other than that the NIC had no information about that product or implementation, or that the information was not forthcoming by the time of publication. Anyone planning to use the hardware or software described in this Guide is advised to thoroughly investigate the suitability, quality, costs, available support, and other related details pertaining to any given selection, and to make sure that products or implementations being considered for use on the Defense Data Network (DDN) comply with the official DoD Military Standard (MIL-STD) protocols.

ACKNOWLEDGMENTS

The DDN Protocol Implementations and Vendors Guide was prepared by the DDN Network Information Center (NIC) for the Defense Communications Agency Defense Communications System (DCA DCS) Office under contract number DCA-200-87-C-0020, CDRLs E009 and E009A. The Guide was compiled with the assistance of many people, most of whom are cited as contacts for the products and implementations listed within this document. The NIC gratefully acknowledges their contributions.

Table of Contents

INTRODUCTION

This is a guide to implementations and products associated with the DoD Defense Data Network (DDN) suite of data communication protocols. It is published for informational purposes only by the DDN Network Information Center at SRI International on behalf of the Defense Communications Agency Defense Communications System (DCA DCS) Office to assist those wishing to identify existing implementations or products incorporating the DoD protocols.

The guide has three major sections. Section One contains background information about DoD protocols, DDN protocol policy, and qualification testing and evaluation procedures. It also explains how to obtain specific DoD protocol specifications as well as how to obtain related documentation. Section Two lists software implementations, sorted alphabetically by machine type. Section Three lists hardware implementations, sorted alphabetically by company, and it also lists multiple machine implementations. An index is provided to assist in locating particular implementations. The index is sorted by operating system, machine type, company name and other important keywords such as "X.25" and "Gateway".

This document is available to DDN and ARPANET users as a public file on the SRI-NIC.ARPA host. The file is updated on a continual basis and can be copied via FTP or KERMIT using the pathname: NETINFO:VENDORS-GUIDE.DOC.

This document supersedes the "TCP/IP Implementations and Vendors Guide".

Key to Symbols:

v	Taken from vendor literature
[ ]	Not yet available
Last edit:	August 31, 1987

NOTE FOR VENDORS:

This document is produced twice a year in hardcopy form. The release dates are FEBRUARY and AUGUST. If you have new product information or corrections to this text be sure to send them at least 30 days prior to each release date. The last page of the guide contains a convenient form for mailing in vendor information. Network users may also send the form via electronic mail to NIC@SRI-NIC.ARPA.

REVISIONS THIS EDITION

Starting with this edition, a list of new and discontinued products is provided. Product name or company name changes also are included when known. Slight modifications to entries, such as a change in the name or telephone number for a given contact, will not be recorded here.

NEW PRODUCTS

SOFTWARE IMPLEMENTATIONS

- Stanford SU-Mac-IP (Apple Macintosh)
- Data General Corporation DG/TCP/IP (DG/UX)
- Data General Corporation DG/TCP/IP (AOS/VS)
- NFS-20 (Network File Server for TOPS-20)
- UNIX 2.10 BSD (PDP-11's)
- Harris Corporation Computer Systems Division X.25 with TCP/IP Protocols (Harris Computers)
- The Santa Cruz Operation SCO XENIX-NET (XENIX network)
- Stanford SU-PC/IP (IBM PC)
- Chi Corporation Chi Communications Processor (CCP) TCP/IP (Front-end to Sperry 1100's)

MULTIPLE-MACHINE IMPLEMENTATIONS

- Adax, Inc. STANDARD DDN
- Excelan EXOS 8012-03 TCP/IP Network Software for Intel 286/310 systems
- Excelan EXOS 8014 TCP/IP Network Software for 386-based PCs running UNIX 5.3
- Excelan EXOS 8000S TCP/IP Network Software Source Package
- The ISO Development Environment at NRTC (ISODE 2.0)

HARDWARE IMPLEMENTATIONS

- ACC ACP 2250 (AT&T 3B2)
- ACC ACS 4020 (DDN Transparent Gateway)
- Chi Corporation ChiLAN PC Terminal and Host Uniscope Servers
- Mitek Systems Corporation SNA Network Server
- Mitek Systems Corporation M1010 (Control Unit for attaching non-IBM products to an IBM multiplexer channel)
- Mitek Systems Corporation M4011 (IBM to DEC DR11W interface)

DISCONTINUED PRODUCTS

- Communication Machinery Corporation CMC-QM10 Advanced Communication Processor (Hardware implementation)
- Communication Machinery Corporation CMC-QM100 (Multiple-machine implementation)
- Excelan EXOS 8016 (TCP/IP for IBM RT PC/AIX)

NAME CHANGES

- All Internet Systems Corporation HYPER-Link products are now Network Solutions OPEN-Link products

1. BACKGROUND

1.1. The DoD Protocol Suite

In 1982 the DARPA Transmission Control Protocol (TCP) and Internet Protocol (IP) were designated official DoD network communication protocols by the Office of the Secretary of Defense (OSD). These protocols are currently in use by the DDN, as is a DoD version of X.25. The DDN is also beginning to transition to international protocols. (See Section 1.1.3 below.) Consequently, subscribers to the DDN need implementations and vendor products that incorporate these protocols. This guide provides a list of such implementations and products.

1.1.1. DoD Protocol Selection and Announcement Procedures

Official Military Standard (MIL-STD) protocols are selected through a rigorous review process by the military services and the DCA. Once selected, they are deposited at the Naval Publications and Forms Center and are announced in the catalogs published by that organization as official military standards. See Section 1.3.1 for guidelines on ordering MIL-STDs.

The Department of Defense and each branch of the military have their own protocol announcement procedures as do non-military government agencies, such as the National Bureau of Standards. Commercial, national, and international standards organizations also have their own review and announcement procedures. See IEEE Communications Magazine, Vol. 23, No. 1, 43-55 (January 1985) for an excellent overview of the standardization practices of the various protocol standardization bodies within and outside of DoD.

1.1.2. OSD Directives

A number of memoranda from the Office of the Secretary of Defense have been issued which are specific policy statements regarding the DoD protocols. These memoranda are available via FTP or KERMIT from the SRI-NIC.ARPA host computer using the following pathnames:

Host-to-Host Protocols for Data Communication Networks	NETINFO:OSDIR-1.TXT
DoD Policy on Standardization of Host-to-Host Protocols for Data Communications Networks	NETINFO:OSDIR-2.TXT
DDN Implementation	NETINFO:OSDIR-3.TXT
DoD Policy on DDN Protocols	NETINFO:OSDIR-4.TXT
DoD Statement on NRC Report on TP4	NETINFO:OSDIR-5.TXT

They are also reproduced in the 1985 DDN Protocol Handbook, Vol. 1, pages 1-41 through 1-57.

1.1.3. DoD Plans for Transitioning to International Protocols

Vendors and implementors should be aware that the DoD has recently announced that it intends to transition to international protocols, when and if these protocols meet the requirements of the DoD. It is anticipated that any such transition will take place over time and will not significantly impact the viability or operability of the DDN. This guide will include transition products as they are developed.

The following memo from the DoD Interoperability and Standards office addresses the DoD plans for eventual transition to international standards, in particular, to the ISO TP-4 protocol.

MEMORANDUM

From: DoD Interoperability and Standards Office

Date: 18 August 1986

Subject: DoD Transition to ISO TP-4

DoD policy concerning a transition to ISO TP-4 was specified in a 3 April 1985 Memorandum from Mr. Donald C. Latham, Assistant Secretary of Defense, Command, Control, Communications and Intelligence. "Whenever international standards are available and can be used to support military requirements, they will be implemented as rapidly as possible to obtain maximum economic and interoperability benefits. However, TP as a proven commercial offering is not available at this time. The progress of TP will be monitored carefully, and once commercially available, TP will be tested and evaluated for use in military applications." Further study by DoD has indicated that a one layer transition from TCP to TP-4 is not viable. Any transition should happen on an "all layers" basis to preclude multiple transitions and modifications of layer interfaces. Full seven-layer implementations of ISO protocols are only just now being announced. (Note that DoD is already essentially ISO conformant/compatible at layer 3 and below.)

The ISO protocols can be characterized as having many optional features. In the DoD environment, to ensure maximum interoperability and often to meet specific military requirements, the options must be more narrowly specified. DoD Military Specification Supplements for each of the ISO protocols are under development. Tests for conformance to these MIL-Spec-Supplements are also planned. It must be emphasized that the objective is not to create DoD unique versions of commercial protocol products, but to define an options set. Possible modification of an ISO protocol is not ruled out, however, if it is determined that the ISO protocol does not satisfy specific military requirements.

The National Research Council report "Transport Protocols for Department of Defense Data Networks," (RFC:RFC942.TXT) recommended that a method for ISO protocols to interoperate with current DoD protocols should be developed. This is underway with the development of an "Application Layer Translating Gateway" for both file transfer and mail service for the two protocol suites. When this work is complete and the Supplement specifications and tests are available, DoD expects to announce Co-Standard status for the ISO protocols. This is expected within 18 months. A date that new networks will be required to use ISO protocols has not yet been determined. In the case of existing DoD networks with no need to interoperate with others, the current DoD protocols may not be phased out through the lifetime of that network.

1.1.4. GOSIP

As indicated by the above memo, the DoD will be transitioning to OSI protocols over time. The "Government Open Systems Interconnection Protocol Specification" (GOSIP), a Federal Government-wide specification, based on the NBS OSI Implementors agreements is currently under review. Once the GOSIP specification is accepted, it is expected to become mandatory for new acquisitions across the Federal Government, including DoD. DoD is expected to announce Co-Standard status for the ISO/OSI protocols in the same timeframe. A detailed co-existence and transition plan is under development by DoD for DoD networks.

The Implementation Agreements and GOSIP specifications are available from the SRI-NIC.ARPA host via FTP or KERMIT, using pathnames:

NETINFO:NBSOSI-AGREEMENTS.DOC
and
NETINFO:GOSIP.DOC

You may also purchase hardcopy versions from the NIC.

1.2. The Defense Data Network (DDN)

The OSD Memoranda of 23 March 1982, 10 March 1983, and 14 May 1984 mentioned in section 1.1.2 above state that the Defense Data Network (DDN) will provide long-haul and area data communications and interconnectivity for DoD ADP systems, and that this network will support the DoD suite of protocols, in particular TCP and IP. Consequently, all equipment attached to the DDN by military subscribers must incorporate, or be compatible with, the DoD internet and transport protocols.

Potential implementors should be aware that protocol implementations for use in the DoD environment MUST comply with the MIL-STD versions of the protocol specifications. It is also important that the LATEST version of these specifications be used. Most of the protocol documents needed for implementation purposes are included in the DDN Protocol Handbook issued by the DDN Network Information Center. This handbook can serve as a useful reference to DoD protocols; however, implementors using this or any other similar document should always check to see if there are any later protocol or policy changes that apply.

1.2.1. DDN Configuration Management

DDN network configuration management is under the control of the Configuration Management Branch, DCA Code B602B. Matters pertaining to configuration management of the DDN are decided by the Configuration Control Group (CCG). The CCG is chaired by the DDN Defense Communications System (DCS) Technical Manager and is made up of the DDN DCS Division Chiefs. Trouble reports, incident reports, software patch requests, and requests for network configuration changes are reviewed and approved or disapproved by this group.

1.2.2. DDN Protocol Qualification Testing

Subscriber interfaces which are to be used on the DDN must be qualified by meeting a series of performance tests. The results of these tests must satisfy a Technical Acceptance Team made up of personnel from the DDN DCS, the Defense Communications Engineering Center (DCEC), or other appropriate assignees. The DDN DCS has the final approving authority for subscriber interface qualification. Currently, X.25 (up to level 3) is the only protocol being tested. There are plans to test TCP/IP and related application software at DCEC. TCP/IP may be tested by DCA B613 in the future.

1.3. Obtaining Protocol Documentation

1.3.1. Military Standards

Official Military Standards (MIL-STDS) may be ordered from the

Naval Publications and Forms Center, Code 3015
5801 Tabor Avenue
Philadelphia, PA 19120
Phone: (215) 697-3321 (order tape)
(215) 697-4834 (conversation)

1.3.2. RFCs

Requests for Comments (RFCs) are a set of protocol-related technical notes available from the NIC. Network users may obtain online copies from the SRI-NIC.ARPA host using the file transfer services, FTP or KERMIT. Pathnames are of the format RFC:RFCnnnn.TXT (where "nnnn" is the number of the RFC). Network users without FTP or KERMIT capabilities may send requests to NIC@SRI-NIC.ARPA for online copies to be delivered via electronic mail.

RFCs can also be purchased in hardcopy from the NIC. The prices are as follows:

RFC Index - $5.00 domestic/$8.00 foreign
RFCs - $5.00 domestic/$8.00 foreign per RFC under 100 pp.
RFCs - $10.00 domestic/$13.00 foreign per RFC 100 pp. & over (806,809,841,905,909,1000,1013)
RFC Subscription - $200.00 per year domestic/$230.00 foreign

1.3.3. DDN Protocol Handbook

The DDN Protocol Handbook is a three-volume reference set containing official DoD network protocols and experimental ARPANET protocols, together with military standards, implementation guidelines, and related background information. Published by the NIC.

NIC Price: $110.00 per set domestic/$175.00 per set foreign

1.3.4. Blacker Front End Interface Control Document

The Blacker Front End Interface Control Document contains the specification for end-to-end data encryption on the DDN. It may be obtained via FTP or KERMIT from the SRI-NIC.ARPA host using pathname NETINFO:BLACKER.DOC and is also reproduced in the DDN Protocol Handbook.

1.3.5. DDN X.25 Host Interface Specification

This document contains the specific options and features of CCITT Recommendation X.25 (1980) and the Federal Information Processing Standard (FIPS) 100/Federal Standard 1041, (July 1983). Published by DCA, December 1983.

NIC Price: $10.00 domestic/$13.00 foreign

1.3.6. DDN Subscriber Interface Guide

The DDN Subscriber Interface Guide describes representative hardware connections to the DDN, and includes guidelines for connecting equipment to the DDN.

NIC Price: $10.00 domestic/$13.00 foreign

1.3.7. DDN Subscriber Security Guide

This guide describes the security architecture of the DDN.

NIC Price: $10.00 domestic/$13.00 foreign

1.3.8. Interconnection of a Host and an IMP, BBN Report No. 1822

The BBN 1822 report contains specifications for connecting a host computer to a network node (formerly called an Interface Message Processor or IMP, now called a Packet Switch Node or PSN); appendices include the requirements for attaching a host to an IMP through an HDH Interface and the CCITT recommendation X.25 for Link Access Procedure (LAPB). Published by Bolt Beranek and Newman Inc., (BBN) rev. Dec. 1983. Available from BBN. Call (617) 497-2800 for order information.

NOTE: The BBN-1822 interface is now obsolete on the DDN; however, the document may provide useful background information.

1.3.9. NIC Document Ordering Information

Documents can be ordered from the NIC by sending a check, money order, or purchase order for the total amount in US dollars, made payable to SRI International. Non-military California residents must add 6.5% sales tax. Cash payments or charge cards are not accepted. For all orders, please include your full name, US mailing address with zip code, telephone number, and network mailbox (if available) and send to:

DDN Network Information Center
SRI International, Room EJ291
333 Ravenswood Avenue
Menlo Park, CA 94025
(800) 235-3155 or (415) 859-3695

Send online requests for an order form to NIC@SRI-NIC.ARPA, or call the NIC at one of the above telephone numbers.

1.3.10. NIC Shipping Information

DOMESTIC: Orders are shipped via UPS ground service. Please allow 5-10 working days for delivery. Prices include postage.

OVERSEAS: Overseas orders are shipped via "air printed matter". Prices include postage.

SPECIAL: Orders will be shipped via courier services by special arrangement only. If you want an order shipped via one of these methods, please request a document order form from the NIC.

2. SOFTWARE IMPLEMENTATIONS BY MACHINE TYPE

2.1. Apple

2.1.1. CMU/Dartmouth Apple Macintosh IP

PRODUCT-OR-PACKAGE-NAME: MacIP

DESCRIPTION:

MacIP is a set of libraries and programs for the Apple Macintosh. The programs allow use of Telnet and TFTP over AppleTalk. In conjunction with gateways and bridges, the programs allow the use of Telnet and TFTP with other IP hosts on other networks, e.g., a VAX/UNIX on Ethernet. The libraries can be used by Macintosh programs written in Lisa Pascal to provide access to implementations of IP, TCP and UDP protocols on AppleTalk.

DOCUMENTATION:

Preliminary documentation is available as a technical report from the Mathematics and Computer Science Department, Dartmouth College, Hanover, NH 03755. A later (more complete and accurate) document may be forthcoming from the University Computation Center, Carnegie-Mellon University, Pittsburgh, PA 15213. (See contacts below). Some documentation accompanies the sources.

CPU:

Apple Macintosh (TFTP: 128K; Telnet: 512K)

O/S:

Apple Macintosh

IMPLEMENTATION-LANGUAGE:

Lisa Pascal and 68000 Assembler

DISTRIBUTOR:

1) Usenet (net.sources.mac)
2) Mark Sherman (see below)
3) Tim Maroney (see below)

CONTACT:

1) Tim Maroney, (Tim.Maroney@CMU-CS-K.ARPA)
University Computation Center
Carnegie-Mellon University
Pittsburgh, PA 15213

2) Mark Sherman, (mss%Dartmouth@RELAY.CS.NET)
Dept. of Mathematics and Computer Science
Dartmouth College
Hanover, NH 03755

ORDERING-PROCEDURE:

Under revision. Generally, Tim Maroney handles Usenet postings, Mark Sherman handles individual requests. Currently, send a request to Mark Sherman along with five blank single-sided microdisks (3.5 Sony compatible). We will return five disks with sources and programs (payment instead of disks is acceptable. Current estimate is $5/disk.)

PROPRIETY-STATUS:

None

INFORMATION-UPDATED:

November 1985

2.1.2. Stanford Ethernet Appletalk Gateway

PRODUCT-OR-PACKAGE-NAME: Stanford Ethernet Appletalk Gateway (SEAGATE)

DESCRIPTION:

SEAGATE is a gateway that connects an Ethernet using the internet protocols, to an applebus (AppleTalk) using Apple or IP protocols. With such a gateway in place, it becomes possible to create server daemons to provide file, printing, mail, etc. services for Macintoshes.

This distribution of SEAGATE provides all the information and software you should need to setup your own gateway. Please bear in mind that this distribution is not 'supported' and that we can't give extensive help about the mechanics of putting your gateway together. We would like to hear about bug reports or enhancements however.

To assemble your own gateway, you will need at least the items below:

- The hardware is a 3 card multibus system: A 'SUN' (or Forward) 68000 CPU board, an Interlan NI3210 Ethernet card, and a homemade applebus card (about 8 chips) which takes an afternoon to wirewrap.

- A UNIX (usually VAX) running 4.2 BSD, 4.1 BSD or Eunice. This is because the source distributed is written in the PCC/MIT 68000 C compiler. [This is the same compiler included with the SUMACC Mac C cross development kit.] You can probably substitute any 68K C compiler and assembler, but it will be harder.

- Inside Mac, update service, and the Mac software supplement.

- Applebus Developer's Kit, includes: protocol manual, applebus taps and interconnecting cable, Mac applebus drivers on SONY disks.

Software usable through the gateway includes:

- MAT (Mac / ATP transfer program). A simple file transfer utility and daemon. Also serves as a skeleton application for general Mac transaction services. For example you could easily build a Mac program to read and create 'internet mail' containing pictures and speech.

- EFS (external file system). Allows UNIX to act as a general file server for the Macintosh. The Mac user sees the standard 'desktop' iconic model of his remote directory on UNIX. This software was written by John Seamons of LucasFilm and adapted by us for AppleTalk.

- TELNET and TFTP. These correspond to the UNIX programs used to access virtual terminal and file transfer services. The Mac programs here were developed by MIT (Romkey) / Dartmouth (Mark Sherman) and CMU (Tim Maroney). This software has been released by Tim to net.sources.mac (usenet) and is FTPable from CMU.

The released material for all of the above includes source code and documentation. These files are currently publicly accessible on-line via FTP to our SUMEX host, in the <info-mac> directory. There are also tar magtapes available of SUMACC and INFO-MAC (which contains the seagate files). Magtape info:

The tape duplication company below charges $65 to send each tape. This includes the new reel of tape and surface (book rate) postage. They will accept prepaid checks or money orders. Call the number below for additional info about postage for airmail or international mail.

Maria Code
Data Processing Services
Info-Mac TAR tape, and/or SUMACC TAR tape
1371 Sydney Drive
Sunnyvale, CA 94087
(408) 735-8006

DOCUMENTATION:

On [SUMEX]<info-mac> the files are:

seagate.ms	documentation in -ms format
seagate.hard	the wirelist for the applebus interface
seagate.shar1	the main gateway sources (including above docs)
seagate.shar2	the ddt, dlq, testscc, and tftp subdirectories
seagate-efs.shar	the file service (client and server)
seagate-mat.shar	the MAT service

All these files are plain ASCII and can be FTP'd from SUMEX with the 'anonymous' login. The shar (shell archive) files are large so we would appreciate it if you would avoid transfers during 9 AM to 5 PM PST.

CPU:

Apple Macintosh

O/S:

UNIX and others

IMPLEMENTATION-LANGUAGE:

C

CONTACT:

Bill Croft, SUMEX, Stanford University, (Croft@SUMEX-AIM.STANFORD.EDU),(415) 497-5294

PROPRIETY-STATUS:

Public domain (Copyrighted by Stanford; may be used, but not sold without permission.)

INFORMATION-UPDATED:

January 1986

2.1.3. Stanford Apple MacIntosh

PRODUCT-OR-PACKAGE-NAME: SU-Mac/IP

DESCRIPTION:

Stanford University's implementation of the TCP/IP suite of protocols for Appple Computer's MacIntoshes, SU-Mac/IP, is based on Cornell University's port of MIT's PC/IP to the Aztec C-Compiler. This package includes FTP, TELNET, FINGER, and WHOIS built into one application. A total of five concurrent sessions (up to three TELNET sessions, one FTP session, and one FINGER/WHOIS session) are allowed. MacIntosh facilities like scroll-back (up to two screens) and cut-&-paste are also supported. TELNET sessions provide VT100 terminal emulation and may be recorded to a file with the "photo" option. FTP has a user-friendly MacIntosh pop-up windows and button interface.

DOCUMENTATION:

A manual is provided for users and administrators.

CPU:

Apple MacIntosh

O/S:

Apple MacIntosh

IMPLEMENTATION-LANGUAGE:

Aztec C-Compiler for MacIntosh

DISTRIBUTOR:

ACIS/Networking Systems
115 Pine Hall
Stanford, CA 94305

CONTACT:

Carol Buckley, (415) 723-3603

ORDERING-PROCEDURE:

Contact Carol Buckley for information and license agreement, available to degree-granting Educational Institutions and qualifying non-profit organizations only. Others may be licensed from commercial suppliers.

PROPRIETY-STATUS:

Copyright (c) 1987 by the Board of Trustees of the Leland Stanford Junior University and licensed to organizational users only.

INFORMATION-UPDATED:

June 1987

2.2. AT&T

2.2.1. AT&T 3B Series

PRODUCT-OR-PACKAGE-NAME: AT&T Enhanced TCP/IP WIN/3B

DESCRIPTION:

Package includes FTP, SMTP, TFTP, Telnet, rlogin, rwho, rcp (remsh), finger, TCP, UDP, ICMP and IP. Lower level protocols supported are Ethernet and X.25. Berkeley sockets interface and the AT&T Transport Level Interface (TLI) are supported.

DOCUMENTATION:

User Guide, Administrator Guide, Programmer Reference Manual, and Quick Reference Card

CPU:

AT&T 3B/300, 3B/310, 3B/400, 3B5, 3B15, 3B20S and 3B20A computers

O/S:

UNIX System V, Release 2

IMPLEMENTATION-LANGUAGE:

Mostly C (binary distribution)

DISTRIBUTOR:

AT&T Information Systems
1776 On The Green
Morristown, NJ 07960

CONTACT:

AT&T Information Systems, Application Software, (800) 247-1212

ORDERING-PROCEDURE:

Contact above

INFORMATION-UPDATED:

April 1986

2.3. Bolt Beranek and Newman

2.3.1. BBN-C/70

PRODUCT-OR-PACKAGE-NAME: BBN-C/70

DESCRIPTION:

The C/70 processor is a BBN-designed system with a native instruction set oriented toward executing the C language. It supports BBN O/S, a UNIX look-alike. A full, well-debugged, implementation of TCP/IP is provided as part of the kernel. Both user and server Telnet, SMTP, and FTP run as 20-bit user processes.

CPU:

C/70

O/S:

BBN O/S (a UNIX look-alike)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

BBN Communications Corporation
50 Moulton Street
Cambridge, MA 02238

CONTACT:

Mitchell Tasman, (mtasman@CCT.BBN.COM), (617) 497-2562

INFORMATION-UPDATED:

February 1986

2.3.2. BBN-Gateways

DESCRIPTION:

In an effort to provide improved service in the gateways maintained at BBN, a new gateway implementation written in MACRO-11 instead of BCPL has been developed. The MACRO-11 gateway provides users with internet service that is functionally equivalent to that provided by the current BCPL gateways with the following exceptions:

- Packets with options will be fragmented if necessary.
- ICMP protocol is supported.
- The gateway sends Time Exceeded, Parameter Problem, Echo, Information Request, Destination Unreachable, and Redirect ICMP messages.
- Initially, Source Quench and Timestamp packets will not be supported.
- Class A, B, and C Network Address formats as specified in the September 1981 Internet Protocol Specification (RFC791) are supported.

The gateway contains an internetwork debugger (XNET) that allows the gateway to be examined while it is running. Buffer space is greatly expanded to provide better throughput. ARPANET RFNMs are counted so the gateway will not send more than 8 outstanding messages to an ARPANET host.

IMPLEMENTATION-LANGUAGE:

MACRO-11

CONTACT:

Robert Hinden, (hinden@BBNCCV.ARPA), (617) 497-3757

INFORMATION-UPDATED:

February 1986

2.4. Burroughs

2.4.1. SDC

PRODUCT-OR-PACKAGE-NAME: Burroughs DDN Interface

DESCRIPTION:

The Burroughs DDN Interface augments the Burroughs Network Architecture to support communication with Burroughs and other vendor equipment employing DoD protocols. DoD network software is implemented partly in the mainframe and partly in an intelligent front end processor. DDN connection is via X.25 Standard Mode at speeds up to 56 Kbps. Telnet, FTP, and SMTP protocols are supported above TCP and IP. Several mainframes may be connected to DDN through the same front end via a proprietary LAN, in which case the front end supports the External Gateway Protocol. Multiple IMP connections may also be supported.

CPU:

B 5900, 6900, 7900, A-Series

O/S:

Burroughs MCP Release 3.6

IMPLEMENTATION-LANGUAGE:

PASCAL

DISTRIBUTOR:

System Development Corporation
7925 Jones Branch Drive
McLean, VA 22102

CONTACT:

Joseph Gibson, (703) 821-0305

INFORMATION-UPDATED:

February 1986

2.5. Concurrent Computer Corporation

2.5.1. Network Solutions OPEN-Link

PRODUCT-OR-PACKAGE-NAME: OPEN-Link for OS/32

DESCRIPTION:

OPEN-Link is a series of communications software and hardware products that meet the Defense Communications Agency MIL-STDs in use on the DDN networks, such as ARPANET and MILNET. These products are also interoperable with the UNIX BSD 4.X implementations of these protocols used by many popular UNIX based graphics workstations, such as SUN, APOLLO, CIMLINK, CADNETIX, and others.

OPEN-Link supplies TCP/IP communication protocol software products, Application Programming Interfaces to the TCP functions for PASCAL, FORTRAN VII, C, and CAL, and the MIL-STD File Transfer (FTP), Virtual Terminal (TELNET) and Simple Mail Transfer (SMTP) applications.

OPEN-Link for Concurrent Computer OS/32 systems uses the Concurrent Computer Ethernet Data Link Controller.

DOCUMENTATION:

A full documentation set is available.

CPU:

Concurrent Computer Corporation 3200 Series Systems, including MPS

O/S:

OS/32

IMPLEMENTATION-LANGUAGE:

PASCAL

DISTRIBUTOR:

Network Solutions
Products Group
8229 Boone Blvd., 7th Floor
Vienna, VA 22180

CONTACT:

Mary Bloch, (703) 749-1900

ORDERING-PROCEDURE:

Submit purchase order to above address; see above contact for pricing.

PROPRIETY-STATUS:

Product of Network Solutions

INFORMATION-UPDATED:

August 1987

2.6. Control Data Corporation

2.6.1. [CDC-Cyber]

DESCRIPTION:

This will be a package of software and technical support services for interfacing Cyber computing environments to the Defense Data Network. The expected date of completion is February of 1987.

CPU:

Cyber 170

O/S:

NOS

DISTRIBUTOR:

Control Data Corporation
215 Moffett Park Drive
Sunnyvale, CA 94089

CONTACT:

Paul Trettel, (408) 744-5459

INFORMATION-UPDATED:

July 1986

2.6.2. CYGNUS

PRODUCT-OR-PACKAGE-NAME: Cyber TCP/IP, CYGNUS, NIP

DESCRIPTION:

CYGNUS is a central processor program which implements TCP, UDP, and IP. NIP is a peripheral processor program which acts as the network device driver for CYGNUS. Communication with the rest of the Internet is accomplished using a Cyber channel adapter which connects the Cyber with a VAX 11/780 system. The VAX acts as a front-end processor for the Cyber: ARP is implemented there and standard Ethernet hardware is used to physically connect to the network. This implementation is now available for general release.

DOCUMENTATION:

No published documentation currently exists; internal documentation is under preparation.

CPU:

Cyber 170/750 with VAX 11/780 as front-end

O/S:

UT2D (University of Texas Dual Dinosaur)

IMPLEMENTATION-LANGUAGE:

Cyber assembly language for CYGNUS and NIP (COMPASS)

C for the VAX-11 front-end program

DISTRIBUTOR:

Computation Center
The University of Texas at Austin

CONTACT:

Dan Reynolds, (dan@NGP.UTEXAS.EDU)
Com 23, Computation Center
The University of Texas at Austin
Austin, TX 78712
(512) 471-3241 ext 223

ORDERING-PROCEDURE:

Contact the person above for specifics

PROPRIETY-STATUS:

Copyright 1986, The University of Texas System Board of Regents

INFORMATION-UPDATED:

June 1986

2.7. Convex Computer Corporation

2.7.1. Convex C-1

PRODUCT-OR-PACKAGE-NAME: CONVEX C-1 affordable supercomputer

DESCRIPTION:

The C-1 offers 40 Mflops of processing power in a machine with large real (128 MB) and virtual (2 GB) memory. Software includes vectorizing FORTRAN and C compilers and the UNIX 4.2 BSD operating system. Many standard TCP/IP programs run unchanged on the CONVEX C-1.

DOCUMENTATION:

A full set of documentation is available

CPU:

CONVEX C-1

O/S:

UNIX 4.2 BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

CONVEX Computers
701 Plano Road
Richardson, TX 75081
(214) 952-0200

CONTACT:

Marshall Stallings, (214) 952-0200

ORDERING-PROCEDURE:

Submit purchase order to above address; see above for pricing information.

PROPRIETY-STATUS:

Product of CONVEX Computer Corporation

INFORMATION-UPDATED:

August 1986

2.8. Cray

2.8.1. Cray TCP/IP

PRODUCT-OR-PACKAGE NAME: Cray TCP/IP Network Package

DESCRIPTION:

The TCP/IP Network Package is an implementation of the TCP/IP protocol suite, based on the University of California at Berkeley's 4.2 BSD. It supports DoD standard IP, ICMP, TCP, UDP, Telnet, and FTP protocols. SMTP support is planned.

Also supported are extensions developed at UC-Berkeley: socket interface, remote shell (remsh), remote copy (rcp), remote execution (rexecd). Remote login (rlogin) support is planned.

The TCP/IP network package is available with drivers for Network Systems Corporation HYPERchannel adapters and media. A number of other vendors have worked with Cray to make their IP implementations available over the HYPERchannel media. These implementations, in addition to providing direct connections to Cray systems, can provide IP-level gateways to other media (most typically, to Ethernet).

DOCUMENTATION:

Complete documentation is available to Cray customers.

CPU:

Cray-1/S, Cray-1/M, Cray X-MP, Cray-2

O/S:

Unicos, a derivative of Unix System V

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Cray Research, Inc.
608 Second Avenue South
Minneapolis, Minnesota 55402

CONTACT:

David D. Thompson, Manager
Networking and Communications Group
Cray Research, Inc.
1440 Northland Drive
Mendota Heights, Minnesota 55120
(612) 681-3232

ORDERING-PROCEDURE:

Contact any Cray Research sales office

PROPRIETY-STATUS:

Product of The Wollongong Group and Cray Research

INFORMATION-UPDATED:

July 1986

2.9. Data General

2.9.1. Claflin & Clayton 4100

PRODUCT-OR-PACKAGE-NAME: 4100 RDOS TCP/IP

DESCRIPTION:

The 4100 Protocols allow Data General RDOS systems to communicate using TCP/IP over Ethernet. Client TELNET, Client FTP and Server FTP applications, as well as an applications level TCP interface are provided.

DOCUMENTATION:

Available from vendor

CPU:

Data General NOVA, DESKTOP, ECLIPSE, and ECLIPSE/MV systems

O/S:

Mapped RDOS

DISTRIBUTOR:

Claflin & Clayton, Inc.
117 Maynard Street
Northboro, MA 01532

CONTACT:

Heather Claflin, (617) 393-7979

ORDERING-PROCEDURE:

Contact distributor

PROPRIETY-STATUS:

Product of Claflin & Clayton, Inc.

INFORMATION-UPDATED:

August 1986

2.9.2. Claflin & Clayton 4200

PRODUCT-OR-PACKAGE-NAME: 4200 AOS TCP/IP

DESCRIPTION:

The 4200 Protocols allow Data General RDOS systems to communicate using TCP/IP over Ethernet. Client TELNET, Client FTP and Server FTP applications, as well as an applications level TCP interface are provided.

DOCUMENTATION:

Available from vendor

CPU:

Data General DESKTOP and ECLIPSE systems

O/S:

AOS

DISTRIBUTOR:

Claflin & Clayton, Inc.
117 Maynard Street
Northboro, MA 01532

CONTACT:

Heather Claflin, (617) 393-7979

ORDERING-PROCEDURE:

Contact distributor

PROPRIETY-STATUS:

Product of Claflin & Clayton, Inc.

INFORMATION-UPDATED:

August 1986

2.9.3. Claflin & Clayton 4300

PRODUCT-OR-PACKAGE-NAME: 4300 AOS/VS TCP/IP

DESCRIPTION:

The 4300 Protocols allow Data General RDOS systems to communicate using TCP/IP over Ethernet. Client TELNET, Client FTP and Server FTP applications, as well as an applications level TCP interface are provided.

DOCUMENTATION:

Available from vendor

CPU:

Data ECLIPSE/MV systems

O/S:

AOS/VS

DISTRIBUTOR:

Claflin & Clayton, Inc.
117 Maynard Street
Northboro, MA 01532

CONTACT:

Heather Claflin, (617) 393-7979

ORDERING-PROCEDURE:

Contact distributor

PROPRIETY-STATUS:

Product of Claflin & Clayton, Inc.

INFORMATION-UPDATED:

August 1986

2.9.4. DG/TCP/IP (AOS/VS)

DESCRIPTION:

Data General provides the DoD community with the DoD Internet protocol suite, including TCP, IP, and higher level protocols, SMTP, FTP and TELNET. Implementations include IEEE 802.3 for LAN access and a DCA Standard certified X.25 interface for DDN access.

DOCUMENTATION:

Complete documentation is available to Data General customers.

CPU:

MV product line, including TEMPEST models

O/S:

AOS/VS

DISTRIBUTOR:

Data General
Data General Sales Force
4400 Computer Drive
Westborough, MA 01580

CONTACT:

John Williams
Data General
62 Alexander Drive
Research Triangle, NC 27709
(919) 549-8421

ORDERING PROCEDURE:

Contact any Data General Sales Office

PROPRIETY-STATUS:

Product of Data General Corporation

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1987

2.9.5. DG/TCP/IP (DG/UX)

DESCRIPTION:

Data General provides the DoD community with the DoD Internet protocol suite, including TCP, IP, and higher level protocols FTP, SMTP, and TELNET. Implementations include Ethernet for LAN access and a DCA Standard certified X.25 interface for DDN access.

DOCUMENTATION:

Complete documentation is available to Data General customers.

CPU:

MV product line, including TEMPEST models

O/S:

DG/UX

DISTRIBUTOR:

Data General Corporation
Data General Sales Force
4400 Computer Drive
Westborough, MA 01580

CONTACT:

John Williams
Data General
62 Alexander Drive
Research Triangle, NC 27709
(919) 549-8421

ORDERING-PROCEDURE:

Contact any Data General Sales Office

PROPRIETY-STATUS:

Product of Data General Corporation

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1987

2.10. Datapoint

2.10.1. Datapoint WAN-X.25

PRODUCT-OR-PACKAGE-NAME: Wide Area Networking - X.25

DESCRIPTION:

Wide Area Networking - X.25 (WAN-X.25) is a communications product designed according to the Open Systems Interconnection (OSI) model. WAN-X.25 uses CCITT X.25 as the transport mechanism for Datapoint-to-Datapoint communications. Datapoint provides a set of software products to utilize the WAN-X.25 services, and a program interface for COBOL, DATABUS, DASL, and Assembler routines.

WAN-X.25 can operate on Packet Switched Data Networks (PSDN), Circuit Switched Telephone Networks (CSTN), Point-to-Point Private/Leased lines, and Circuit Switched Data Networks (CSDN). WAN-X.25 is certified to work on most public data networks world-wide.

WAN-X.25 has been certified by the DDN Program Management Office (PMO) as a DCAC-370-P195-(XX) compliant X.25 product, and is fully qualified to run on the DDN Network.

DOCUMENTATION:

RMS Wide Area Networking X.25 User's Guide, edition 3

CPU:

Datapoint 86xx, or 88xx

O/S:

Resource Management System (RMS)

IMPLEMENTATION-LANGUAGE:

Assembler and Datapoint Advanced Systems Language

DISTRIBUTOR:

Datapoint Corporation
9725 Datapoint Drive
San Antonio, TX 78284

CONTACT:

David Hendon, (512) 699-5141

ORDERING-PROCEDURE:

Submit order through your local Datapoint representative; contact your local Datapoint representative for pricing information.

PROPRIETY-STATUS:

Product of Datapoint Corporation

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1987

2.11. Digital Equipment Corporation

2.11.1. BRL Gateway

PRODUCT-OR-PACKAGE-NAME: BRL Gateway

DESCRIPTION:

The BRL Gateway is a total redesign. None of the original MIT code was used. The gateway runs as a set of tasks on a simple multiprocessing operating system called LOS. Both LOS and the gateway code as described here were entirely designed and written by Ron Natalie.

This is an IP gateway with EGP support. The gateway will run on most PDP-11 series processors, but is designed to be portable to other machines that have C compilers. Currently supported are DEC PCL-11/B, ACC LH/DH-11, Network Systems HYPERchannel, Proteon Ring, Interlan NI1010, and serial lines.

All gateway functions and features of the IP and ICMP protocols are supported with the following exceptions. The ICMP timestamp packet is not implemented and ICMP source quench messages are ignored. IP timestamp and routing options are supported. The Exterior Gateway Protocol is supported as described in RFC904. Deviations from the specification are made to optimize the performance as a stub system from the existing core networks. The gateway also uses its own UDP based debug and monitoring protocol. GGP echo packets are also answered. Network Time Protocol (NTP) is also supported.

In addition, the gateway provides Virtual-Host service. TCP connections to be dynamically directed to an active host on the BRLNET. This allows the host "BRL" to appear to always be up for mail purposes.

The original BRL gateway was an early version of the MIT-C gateway modified to know about class B and C addresses and to work with the previously mentioned network interfaces. With the advent of EGP, higher network traffic, and greater routing intelligence, the modified MIT gateway became ineffective.

DOCUMENTATION:

Included in the distribution

CPU:

Any PDP-11 processor that has memory management. The machines currently in use are a PDP-11/23, 24, 34, 44, 70 and LSI-11/23. A console terminal interface and a clock are required, as well as any network interfaces. The built-in line frequency clock on the LSI-11 processors may be used in lieu of an additional clock.

O/S:

LOS (the Little Operating System) is a small message-passing, multitasking operating system written for the implementation of the gateway, but is also being planned for use in real-time and file server applications. The Gateway code runs in the hardware user mode, while LOS itself runs in kernel mode. Interrupts are serviced in real-time by the user code.

IMPLEMENTATION-LANGUAGE:

With the exception of small parts of the operating system and some bit manipulation routines, which are written in assembler, both LOS and the Gateway code are written in the C language.

DISTRIBUTOR:

U.S. Army Ballistic Research Laboratory
ATTN: SLCBR-SE-C/ R. Natalie
APG, MD 21005-5066

CONTACT:

Ron Natalie, (ron@brl.arpa), (301) 278-6678 or above address

ORDERING-PROCEDURE:

Send mail to ron@brl.arpa for more information

PROPRIETY-STATUS:

Both LOS and the Gateway are the property of the Department of the Army. They are available for public use at no charge. They may be distributed with commercial products with slight restrictions.

INFORMATION-UPDATED:

October 1986

2.11.2. Fuzzball

PRODUCT-OR-PACKAGE-NAME: DCN/Fuzzball System for the PDP11

DESCRIPTION:

The Fuzzball Internet software system was developed with DARPA sponsorship beginning in 1978 and continuing to the present. It runs in a sizable number of PDP11s and LSI-11s with varying configurations and has been used extensively for testing, evaluation and experimentation with other implementations. The system is designed to be used with the DCnet local network protocols as described in RFC-891 and the Fuzzball operating system for a multi-media internet workstation (also called a Fuzzball), which operates using emulation techniques to support the DEC RT-11 operating system and application programs. However, the system has also been used on other networks, including ARPAnet and NSFnet, and with other operating systems, including RSX-11. An RSX-11 based version incorporating only the IP/TCP modules is presently used to support the INTELPOST electronic-mail network.

The software system consists of a package of MACRO-11 and C modules structured into levels corresponding to local-net, IP, TCP and application levels, with user interfaces at each level. The local-net level supports several communication devices, including synchronous and asynchronous serial lines, 16-bit parallel links, Ethernet and 1822 interfaces. Hosts using these devices have been connected to ARPAnet IMPs, Satellite IMPs, BBN Internet Gateways, SRI Port Expanders and to standard Ethernets, DECnets and X.25 public networks, as well as several DCnet local networks. The system supports subnets as described in RFC-950, as well as network-level type-of-service routing, local-level dynamic routing and extensive time-synchronization and error-reporting functions, including drivers for several types of radio clocks. Ethernet support includes the Address Resolution Protocol (ARP) with a dynamic cache suitable for multiple-gateway and multiple-net cables.

The IP level conforms to the RFC-791 specification, including fragmentation, reassembly and the source-route option. A full set of ICMP features compatible with RFC-792 is available, including error reporting, timestamp, redirect and source-quench messages. Error reports and source-quench information is conveyed to the user level via the TCP and raw-datagram protocol modules. Internet gateway (routing and non-routing) facilities conforming to the Exterior Gateway Protocol (EGP) RFC-904 specification can be included on an optional basis.

The TCP level conforms to the RFC-793 specification, including PUSH, URGENT and options. Its structure is based on circular buffers for reassembly and retransmission, with repacketizing on each retransmission. Retransmission timeouts are dynamically determined using measured roundtrip delays, as adjusted for backoff. Data flow into the network is controlled by measured network bandwidth, and adjusted by source-quench information. Features are included to avoid excessive segment fragmentation and retransmission into zero windows. The user interface level provides error and URGENT notification, as well as a means to set outgoing IP/TCP options.

A raw-datagram interface is available for non-TCP protocols such as UDP (RFC-768). It includes internal congestion and fairness controls, multiple-connection management and timestamping. Protocols above UDP supported in the present system include Network Time Protocol (RFC-958), Time Server (RFC-868), Name Server (IEN-116), Domain Name Server (RFC-883) and Trivial File-Transfer Protocol (RFC-783). Other raw-datagram services include XNET (IEN-158), Exterior Gateway Protocol (RFC-904), PING (ICMP Echo utility) and several experimental services.

A number of user-level protocol modules above TCP have been built and tested with other internet hosts, including TELNET (RFC-854), File Transfer Protocol (RFC-959), Simple Mail Transfer Protocol (RFC-821), Multi-Media Mail Protocol (RFC-759) and various other file-transfer, debugging and control/monitoring protocols. A network-spooling system can be used to move files between DCnet hosts and is compatible with Unix systems.

Code sizes and speeds depend greatly on the system configuration and features selected. A typical 30K-word LSI-11/2 single-user configuration with all features selected and including the operating system, device drivers and all buffers and control blocks, leaves 16K-20K words for user-level application programs and protocol modules. The same service is provided for up to eight individually relocated users in a 128K-word LSI-11/23 configuration and up to 32 users in a 1024K-word LSI-11/73 configuration. A diskless version can be configured for stand-alone gateway applications. Disk-to-disk FTP transfers across a DMA interprocessor link between LSI-11/23s operate in the range 30-50 Kbps with 576-octet packets. The 256K-word LSI-11/73 NSFnet gateway supports up to three 56-Kbps lines and an Ethernet controller, while the 124K-word PDP11/34 INTELPOST system supports two 56-Kbps lines and a number of lower-speed lines. Typical throughputs range from 100 to 400 packets per second, depending on processor and interface type.

DOCUMENTATION:

Summary description and help-information files

CPU:

PDP-11 and LSI-11 (all models)

O/S:

Self-contained

IMPLEMENTATION-LANGUAGE:

MACRO-11 and C

DISTRIBUTOR:

M/A-COM Linkabit Corporation
8619 Westwood Center Drive
Vienna, VA 22180

CONTACT:

David L. Mills, (Mills@D.ISI.EDU), (703) 749-5208

ORDERING-PROCEDURE:

Contact above

PROPRIETY-STATUS:

DARPA permission required to distribute sources and/or binaries. Use of DEC RT-11 system software requires license; however, this software is not necessary for network protocols or application programs.

INFORMATION-UPDATED:

July 1986

2.11.3. Process Software RT-11

PRODUCT-OR-PACKAGE-NAME: Process Software RT-11

DESCRIPTION:

This TCP/IP Implementation supports file transfer operations on DEC RT-11 operating systems. Both user and server FTP are implemented. Full support is included for Ethernet DEQNA as well as ProNET ring hardware interfaces. Process Software Corporation can modify the software for other interfaces.

DOCUMENTATION:

Fully documented; supplied with User's Manual

CPU:

PDP-11 and LSI-11

O/S:

RT-11

IMPLEMENTATION-LANGUAGE:

MACRO-11

DISTRIBUTOR:

Process Software Corporation
P.O. Box 746
35 Montague Road
Amherst, MA 01004

CONTACT:

Phil Denzer, (413) 549-6994, Telex 517891

ORDERING-PROCEDURE:

Contact Process Software Corporation

INFORMATION-UPDATED:

May 1986

2.11.4. Process Software IAS

PRODUCT-OR-PACKAGE-NAME: Process Software IAS

DESCRIPTION:

This TCP/IP Implementation supports file transfer operations on DEC IAS operating systems. Both user and server FTP are implemented. Full support is included for Ethernet DEQNA as well as ProNET ring hardware interfaces. Process Software Corporation can modify the software for other interfaces.

DOCUMENTATION:

Fully documented; supplied with User's Manual

CPU:

PDP-11

O/S:

IAS

IMPLEMENTATION-LANGUAGE:

MACRO-11

DISTRIBUTOR:

Process Software Corporation
P.O. Box 746
35 Montague Road
Amherst, MA 01004

CONTACT:

Phil Denzer, (413) 549-6994, Telex 517891

ORDERING-PROCEDURE:

Contact Process Software Corporation

INFORMATION-UPDATED:

May 1986

2.11.5. Excelan RSX-11 for Q-bus

PRODUCT-OR-PACKAGE-NAME: EXOS 8031 TCP/IP Network software for Q-bus based DEC PDP/11 minicomputers running RSX-11M and RSX-11M+

DESCRIPTION:

EXOS 8031 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 203 Intelligent Ethernet Controller for Q-bus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet) run on the PDP/11. EXOS 8031 user applications also include QIO programming library and network administration utilities.

DOCUMENTATION:

EXOS 8031 TCP/IP Network Software for PDP/RSX Systems Reference Manual

CPU:

Q-bus based DEC PDP/11-23,73 minicomputers in conjunction with an EXOS 203 Intelligent Ethernet Controller

O/S:

RSX-11M (v4.0-4.2) and RSX 11M+ (v2.1, v3.0)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.11.6. Excelan RSX-11 for UNIBUS

PRODUCT-OR-PACKAGE-NAME: EXOS 8032 TCP/IP Network software for UNIBUS-based DEC PDP-11 minicomputers running RSX-11M and RSX-11M+

DESCRIPTION:

EXOS 8032 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 204 Intelligent Ethernet Controller for UNIBUS. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet) run on the PDP/11. EXOS 8032 user applications also include programming library and network administration utilities.

DOCUMENTATION:

EXOS 8032 TCP/IP Network Software for PDP/RSX Systems Reference Manual

CPU:

UNIBUS based DEC PDP/11-24,44,84 in conjunction with an EXOS 204 Intelligent Ethernet Controller

O/S:

RSX-11M (v4.0 - v4.2) and RSX 11M+ (v2.1,v3.0)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.11.7. Process Software RSX-11

PRODUCT-OR-PACKAGE-NAME: Process Software RSX-11

DESCRIPTION:

This TCP/IP Implementation supports file transfer operations between DEC RSX-11M, RSX-11M-PLUS and IAS operating systems. Both user and server FTP are implemented. Full support is included for Ethernet (DEUNA and DEQNA) as well as ProNET ring hardware interfaces. Process Software Corporation can modify the software for other interfaces.

DOCUMENTATION:

Fully documented; supplied with User's Manual

CPU:

PDP-11 and LSI-11

O/S:

RSX-11M, RSX-11M-PLUS, IAS

IMPLEMENTATION-LANGUAGE:

Macro-11

DISTRIBUTOR:

Process Software Corporation
P. O. Box 746
35 Montague Road
Amherst, MA 01004

CONTACT:

Phil Denzer, (413) 549-6994, Telex 517891

ORDERING-PROCEDURE:

Contact Process Software Corporation

INFORMATION-UPDATED:

May 1986

2.11.8. UNIX V6

PRODUCT-OR-PACKAGE-NAME: UNIX V6 TCP-IP

DESCRIPTION:

In the UNIX kernel we have modules to drive a "ProNET" device (10 Mb/s token-passing ringnet), to transmit and receive internet packets, to demultiplex incoming TCP and UDP packets, to reassemble internet fragments, and to maintain a cache of internet hosts and their best first hop gateways. Kernel code and data use from 9k to 10.5k bytes depending on the size of the receive packets buffer.

Outside the kernel we have: TCP, user and server Telnet, SMTP, ICMP, and TFTP. All are running but are in varying stages of development.

DOCUMENTATION:

Some documentation about the user/kernel interface and about the kernel code

CPU:

PDP-11/45

O/S:

Version 6 UNIX

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Laboratory for Computer Science
MIT
545 Technology Square
Cambridge, MA 02139

CONTACT:

Karen Sollins, (Sollins@XX.LCS.MIT.EDU)

ORDERING-PROCEDURE:

We are willing to give this software to anyone who wants it, has a UNIX source license, and will agree to a few constraints. We should point out that it would be difficult for someone who is not a UNIX wizard to install this code. To find out more about the software send mail to Karen Sollins, (Sollins@XX.LCS.MIT.EDU).

PROPRIETY-STATUS:

Copyright MIT Laboratory for Computer Science

INFORMATION-UPDATED:

September 1986

2.11.9. Venix/11

PRODUCT-OR-PACKAGE-NAME: Venix/11 TCP/IP

DESCRIPTION:

This is based on the "UNIX V6" implementation available from the MIT Laboratory for Computer Science. It has been ported to a V7 UNIX system, in particular VenturCom's Venix/11 V2.0.

As little of the processing as possible takes place in the kernel, to minimize the code space required. It fits comfortably on I&D machines, but is almost hopeless on the smaller machines. The kernel includes a ProNET device driver, IP fragment reassembly, IP header processing, local-net header processing, and simple routing. The rest of the IP processing, and all of the UDP and TCP functions, are in user libraries. The pseudo-teletype driver is also in the kernel, and is used by Server TELNET.

User programs handle ICMP processing; User and Server TELNET, SMTP, TFTP, Finger, and Discard. There are User programs for Nicname and Hostname. IEN-116 nameservers are used by all programs, and an IEN-116 nameserver is also provided. The TCP used is very simple, not very fast, and lies about windows. No FTP is available, nor is one currently planned.

DOCUMENTATION:

There is a full set of manual pages, and some internals documentation. The kernel code is well commented.

CPU:

PDP-11/44, 45, 70, 73, 84

O/S:

Venix/11 V2.0, should be simple to port to other V7 UNIX systems.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

John Shriver, (jas@PROTEON.COM), (617) 898-2800

ORDERING-PROCEDURE:

Available as source code on an as-is where-is basis

PROPRIETY-STATUS:

Improvements are proprietary to Proteon.

INFORMATION-UPDATED:

January 1987

2.11.10. UNIX 2.10 BSD

PRODUCT-OR-PACKAGE-NAME: UNIX 2.10 BSD

DESCRIPTION:

2.10 BSD TCP/IP is a fairly complete port of 4.3 BSD TCP/IP, with minor exceptions and various programs eliminated due to address space considerations. It provides support for TCP, IP, ICMP, and UDP with user and server programs for Telnet, FTP, TFTP and SMTP. Hardware supported includes ACC and DEC/CSS IMP Interfaces, 10M bit/s Ethernet (3 different controllers), 3M bit/s Ethernet, and Proteon ProNET. 2.10 BSD TCP/IP runs on split I/D machines, and could probably be made to run on smaller PDP-11s, although the address space would be very tight and might present problems. The port, having just been completed, is not as stable as one might wish.

DOCUMENTATION:

Online documentation of user programs, system call interfaces, changes from 4.2 BSD, etc.; "Networking Implementation Notes, 4.3BSD Edition"

CPU:

PDP-11/44, 11/53, 11/70, 11/73, 11/83, 11/84

O/S:

UNIX 2.10BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

USENIX Association
P.O. Box 2299
Berkeley, CA 94710

CONTACT:

Peter H. Salus, (usenix!office@ucbvax.berkeley.edu), (415) 528-8649

For technical information: Keith Bostic, (bostic@okeeffe.berkeley.edu), (415) 642-4948

ORDERING-PROCEDURE:

Contact Distribution Coordinator for information packet.

PROPRIETY-STATUS:

Requires a 2.9BSD license agreement or an AT&T V7, System III, or System V license agreement

INFORMATION-UPDATED:

August 1987

2.11.11. Guelph UNIX 2.9 BSD

PRODUCT-OR-PACKAGE-NAME: GUELPH UNIX 2.9 BSD

DESCRIPTION:

This is a variation of the 2.9 BSD kernel that will run on the entire range of PDP11's from 11/23 up. It uses a modified kernel text segment scheme that does not require separate I/D for the TCP/IP code. Various fixes have been applied so that the kernel runs compatibly with UNIX 4.2 BSD on a 10Mbit/sec. ethernet.

DOCUMENTATION:

Some documentation available; will be sent with tape request

CPU:

PDP-11/23 to PDP-11/70 including Professional 350 PC's

O/S:

UNIX 2.9 BSD

IMPLEMENTATION-LANGUAGE:

C plus some assembler

DISTRIBUTOR:

Rick Macklem,
Department of Computing and Information Science
University of Guelph
Guelph, Ontario Canada N1G 2W1

CONTACT:

Rick Macklem, (rick%uogvax2.BITNET@wiscvm.wisc.edu), (519) 824-4120 x3284

ORDERING-PROCEDURE:

Send a tape and a 2.9 BSD source license to the above address.

PROPRIETY-STATUS:

2.9 BSD source licensees only

INFORMATION-UPDATED:

October 1985

2.11.12. BBN UNIX

PRODUCT-OR-PACKAGE-NAME: BBN-VAX-UNIX

DESCRIPTION:

BBN has developed an implementation of TCP/IP for DEC's VAX(TM) family of processors, that runs under the Berkeley 4.1 BSD version of UNIX(TM). The development effort was funded by DARPA. Some important features of the BBN VAX TCP/IP are that it runs in the UNIX kernel for enhanced performance, it is a complete implementation of the TCP and IP protocols, and provides facilities for direct user access to the IP and underlying network protocols. The IP module supports checksums, option interpretation, fragmentation and reassembly, extended internet address support, gateway communication with ICMP, and support of multi-homing (multiple interfaces and addresses on the same or different networks). The TCP supports checksums, sequencing, the ability to pass options through to the IP level, and advanced windowing and adaptive retransmission algorithms. Support is also provided for the User Datagram Protocol (UDP).

In addition to the TCP/IP software for the VAX, BBN has developed implementations of the Telnet Virtual Terminal Protocol, File Transfer Protocol (FTP), and Simple Mail Transfer Protocol (SMTP), for use with TCP. These protocols are operated as user level programs. Also provided are network programming support tools, such as network name/address manipulation libraries, status, tracing, and debugging tools.

The TCP/IP and higher level protocol software are now available direct from BBN. The software is distributed on a 1600 bpi tar format tape, containing the sources and binaries for a 4.1 BSD UNIX kernel containing the network modifications and the sources and binaries for the higher level protocols and support software. Documentation is provided in the form of a set of UNIX manual pages for the network access device, user programs, and libraries. In addition, a detailed installation document is provided. Device drivers are supplied for the ACC LH-DH/11 IMP interface, the Proteon Associates ProNET Local Network Interface, the ACC IF-11 IMP interface, and the Interlan 10MB Ethernet interface.

CPU:

DEC VAX-11 series

O/S:

UNIX 4.1 BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

BBN (see above)

CONTACT:

Patricia Buckley, (617) 497-3827

ORDERING-PROCEDURE:

The tape is available for a $300.00 duplication fee to Berkeley 4.1 BSD licensees. To order the tape, contact:

Bolt Beranek and Newman Inc.
10 Moulton St.
Cambridge, MA 02238
(617) 497-3827

You will then receive a copy of the licensing agreement. Tapes will be mailed upon receipt of a completed agreement and the distribution fee.

This tape is supplied as-is to UNIX 4.1 BSD licensees, with no warranties or support expressed or implied. BBN would be pleased to arrange separate agreements for providing installation assistance and/or software support services, if desired.

PROPRIETY-STATUS:

Requires a 4.1 BSD license from U.C. Berkeley

2.11.13. UNIX 4.3 BSD

PRODUCT-OR-PACKAGE-NAME: UNIX 4.3 BSD

DESCRIPTION:

This implementation was developed by the Computer Systems Research Group of the University of California at Berkeley as part of a number of research projects. It is a revision of 4.2 BSD, which in turn was based on the BBN TCP/IP implementation for the VAX. It provides support for TCP, IP, ICMP, and UDP with user and server programs for Telnet, FTP, TFTP and SMTP. Hardware supported includes ACC and DEC/CSS IMP Interfaces, 10M bit/s Ethernet (5 different controllers), 3M bit/s Ethernet, and Proteon ProNET.

DOCUMENTATION:

Online documentation of user programs, system call interfaces, changes from 4.2 BSD, etc.; "Networking Implementation Notes, 4.3BSD Edition"

CPU:

VAX-8600, 8650, 11/785, 11/780, 11/750, 11/730; MicroVAX II

O/S:

UNIX 4.3BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Computer Systems Research Group
Computer Science Division
University of California
Berkeley, CA 94720

CONTACT:

Pauline Schwartz, Distribution Coordinator,
(Pauline@UCBVAX.BERKELEY.EDU), (415) 642-7780

ORDERING-PROCEDURE:

Contact Distribution Coordinator for information packet

PROPRIETY-STATUS:

Requires a 4.3BSD license agreement (included) and AT&T UNIX/32V, System III, or System V UNIX source code license.

NOTE: The procedure for 4.2 BSD licensees to acquire 4.3 BSD consists of an Addendum to the 4.2 BSD Berkeley License Agreement, plus Site Information and Equipment List Forms and the required payment. If there has been any change with AT&T, copies of that documentation must also be included, e.g., name change, or updating of the AT&T UNIX Software Agreement.

INFORMATION-UPDATED:

July 1986

2.11.14. CSNET X.25 for UNIX 4.2 BSD

DESCRIPTION:

The IP/X.25 effort is supported at BBN by CSNET for distribution to CSNET sites. It is based on the TCP/IP implementation from Berkeley for 4.2 BSD. A device driver was added which allows IP datagrams to be sent over X.25 virtual circuits, and permits the host to serve as an X.29 PAD. An Interactive Systems INcard is required.

DOCUMENTATION:

Complete manual available if CSNET subscriber

CPU:

Any VAX-11 processor with a UNIBUS

O/S:

Berkeley UNIX 4.2 BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

CSNET CIC
Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, MA 02238
(CIC@CSNET-SH.ARPA)
(617) 497-2777

CONTACT:

Dennis Rockwell, (DROCKWELL@SH.CS.NET)
Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, MA 02238
(617) 497-2643

ORDERING-PROCEDURE:

Contact CIC (see above under DISTRIBUTOR)

PROPRIETY-STATUS:

For CSNET users only

INFORMATION-UPDATED:

February 1986

2.11.15. Marble Connect

PRODUCT-OR-PACKAGE-NAME: Marble CONNECT

DESCRIPTION:

CONNECT is a small collection of utility programs that run under the various Berkeley releases of UNIX for PDP-11's, VAXen, SUN Workstations, ISI Optima, and so forth. CONNECT creates and monitors a serial line connection for the purpose of maintaining continuous networking over often unreliable serial lines. After establishing the connection (it understands a wide variety of autodialer protocols, and it operates over leased- or hard-wires as well), CONNECT listens for loss-of-carrier and, in the event that the carrier is dropped, it re-establishes the connection ASAP. Currently CONNECT is being used with SLIP and Marble Serial IP to maintain ARPA-Ethernet connections over long distances using normal phone lines.

DOCUMENTATION:

Full documentation is available

CPU:

The program runs on any computers using 4.2 BSD, 4.3 BSD or Marble 2.9 BSD UNIX

O/S:

Berkeley UNIX

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Marble Associates Inc.
PO Box 786
Cambridge, MA 02238
(617) 259-1250

CONTACT:

Mark Elvy

ORDERING-PROCEDURE:

Call or write (with purchase order)

PROPRIETY-STATUS:

Product of Marble Associates, Inc.

INFORMATION-UPDATED:

August 1986

2.11.16. The Newcastle Connection

PRODUCT-OR-PACKAGE-NAME: The Newcastle Connection

DESCRIPTION:

The Newcastle Connection is a software sub-system that can integrate a number of UNIX computers to provide a fully transparent distributed environment, termed 'UNIX-United'. It was developed in the Computing Laboratory at the University of Newcastle upon Tyne, England.

Under this arrangement each computer within the system will appear as a directory in a large UNIX file system. Thus, full functionality is provided through a strict adherence to UNIX semantics. There is no need for remote login - the user is able to simply change directory in the standard manner to access the file system of a remote machine (subject to permissions granted).

The Newcastle Connection allows the user to access remote files and execute programs upon the machine in whose file store they are contained. This important feature overcomes the limitations inherent in a number of current Virtual File Systems which involve copying of file systems back to the local file store for processing.

The Newcastle Connection is designed to be Network Independent, and as such has been implemented across a number of media - Ethernet, X.25, RS232, Cambridge Ring, and Omninet.

The Newcastle Connection has been implemented on a number of major machine architectures including :

- Sun Workstation - co-existing with the Sun Network File System
- VAX - running under UNIX 4.2 BSD and UNIX System V
- Perq Workstations - running under PNX

In addition, The Newcastle Connection is available as an In-Kernel implementation for Uniplus+ - based machines. This product, bundled with TCP/IP networking software is available through UniSoft/Root as ROOTnet. This uses the Uniform Datagram Service (UDS) over UDP.

Prices are available on application for Porting and License requirements.

DOCUMENTATION:

Documentation available on-line; supporting information available from MARI Advanced Microelectronics Ltd

CPU:

Motorola 68000 Family, National Semiconductor NS32016, PDP-11, VAX-11

O/S:

UNIX System V, UNIX 4.2 BSD, Xenix, Uniplus+, and variants thereof

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

MARI Advanced Microelectronics Ltd.
32 Grainger Park Road
Newcastle upon Tyne
NE4 8RY
UK
+44 (091) 272-2522

Portable Software Inc.
650 Bair Island Road
Suite 204
Redwood City, CA 94063
USA
(415) 367-6264

Research Triangle Institute
East Institute Drive
PO Box 12194
Triangle Park, NC 27709
USA
(919) 541-6000

CONTACT:

Mr. R.J. Campbell, MARI

Mr. K. Clark, PSI

Mr. R. Warren, RTI, (rbw%rti@MCNC.ORG)

ORDERING-PROCEDURE:

First point of contact for technical appraisal will be MARI.

INFORMATION-UPDATED:

October 1986

2.11.17. v ULTRIX-32

PRODUCT-OR-PACKAGE-NAME: The ULTRIX-32 System

DESCRIPTION:

The ULTRIX-32 System, Version 1.2 is a native UNIX operating system for DECs VAX hardware. The system is derived from the 4th Berkeley Software Distribution, 4.2 BSD developed by the Computer Systems Research Group of the Department of Electrical Engineering and Computer Science at the University of California at Berkeley. 4.2 BSD is an augmented version of AT&T Bell Laboratories UNIX 32V system for VAX hardware. The Berkeley enhancements to UNIX 32V include the addition of support for the VAX virtual architecture and a set of functional additions to the basic AT&T Bell Labs UNIX product, notably TCP/IP. In addition, the ULTRIX-32 system now incorporates AT&T System V Interface Definition (SVID) source code compatibility as defined by Section 2 (Base System) and Section 3 (Kernel Extensions) of the SVID. Finally, selected kernel enhancements from 4.3 BSD are also included.

Along with functionality of the Berkeley system, DEC has added the following features to the ULTRIX-32 Version 1.2 product:

- New system and device support
- New networking features
- New commands and programming languages
- New reliability and maintainability features
- Wide range of Support Service options
- Improved technical documentation including System Management Guidelines
- Installation and configuration without source code
- UNIX sub-licensing for object code directly from DEC
- System V source code compatibility
- 4.3 Kernel Enhancements

The network support includes the standard UNIX uucp facility as well as Ethernet support using TCP/IP and UDP/IP. Options include the DEC NSP network protocol (via DECnet-ULTRIX). All protocols can operate on a single Ethernet physical link concurrently. ULTRIX-32 now also supports Internet subnet routing functionality. Finally, ULTRIX-32 will allow users on ULTRIX-11 Version 3.0 systems who use local TCP/IP support to pass through into a DECnet-ULTRIX network. This support facilitates file transfer, remote execution and remote login capabilities.

DOCUMENTATION:

Extensive documentation available

CPU:

VAX-11 family

O/S:

UNIX System V, UNIX 4.2 BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Local DEC Sales office

INFORMATION-UPDATED:

December 1986

2.11.18. ULTRIX-32 ProNET Device Driver

PRODUCT-OR-PACKAGE-NAME: ULTRIX-32 Device Driver for ProNET networks

DESCRIPTION:

The ProNET-10 and ProNET-80 Token Ring networks offer advantages of speed, distance, and media flexibility over the Ethernet supported by the Digital VAX and MicroVAX computers. The ULTRIX-32 device drivers connect the ProNET-10 and ProNET-80 boards to ULTRIX's TCP/IP code, allowing all the the existing software (including NFS in Version 2.0) to operate over ProNET.

There are ProNET boards for the UNIBUS and Q-Bus VAX processors. The p5205 device driver supports the p1000 ProNET-10 UNIBUS System or the p1080 ProNET-80 UNIBUS System on VAX processors. MicroVAX-I and MicroVAX-II processors use the p1100 ProNET-10 Q-Bus System or the p1180 ProNET-80 Q-bus System.

DOCUMENTATION:

Includes full hardware/software installation manual

CPU:

Any VAX or MicroVAX with UNIBUS or Q-Bus

O/S:

ULTRIX-32 or ULTRIX-32m Version 1.2 or higher

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

PROPRIETY-STATUS:

Licensed code of Proteon, Inc.

INFORMATION-UPDATED:

February 1987

2.11.19. TN3270

PRODUCT-OR-PACKAGE-NAME: TN3270

DESCRIPTION:

A new version of tn3270, a program which emulates an IBM 3270 over the ethernet, is available for anonymous ftp. The tn3270 tar file is located on host arpa.berkeley.edu, in directory pub, in file tn3270tar. Unix sites should probably retrieve this file in binary mode.

Significant changes to tn3270 are:

- The original version of tn3270 emulated an IBM 3277 terminal. This is an out-of-date terminal, and is no longer supported in some IBM environments. The new version of tn3270 emulates an IBM 3278 terminal, which is a more recent IBM terminal. The new version of tn3270 will emulate different models of the IBM 3278, depending on the size of the user's terminal. The available terminal models and screen sizes are documented in "man new tn3270".

- This version of tn3270 (and mset) allow the user to send an EBCDIC cent sign to the CMS host with the new map3270 "centsign" entry. In addition, TEST REQUEST and CURSOR SELECT (IBM 3270 functions) now work reliably.

- This version of tn3270 handles "autoskip" fields correctly.

- This version of tn3270 will work even if the terminal (or window) on which tn3270 is running has a line width of more than 80 columns.

- Clearing all local tab stops now clears "home" and "right margin" (which is the way the Series/1 works).

- Tn3270 and mset now use an environment variable "KEYBD", if it exists, to decide which entry in /etc/map3270 to use for the user's terminal. If "KEYBD" is not defined, then "TERM" is used.

- A bug in the implementation of the 3270 order "Repeat to Address" (RA) has been fixed.

- Mset now has new options "-picky" and "-shell"; see "man new mset".

- Tn3270, when terminating (or going into command mode) now sends the termcap :ve:, :ke:, and :te: (if they exist) to the terminal. In addition, if the screen was in standout mode, this mode is cleared before terminating (or going into command mode). See termcap(5).

- Tn3270 now attempts to use the termcap :md: and :me: strings for highlighting instead of :so: and :se: (:so: and :se: are still used if :md: and :me: do not exist). See termcap(5).

- Various bugs giving rise to infinite loops dealing with "unformatted" screens have been fixed.

- The base telnet portion of tn3270 (see telnet(1)) has been upgraded to the 4.3 telnet. This has fixed many bugs where tn3270, in telnet mode, violated the ARPAnet TELNET specification. In addition, the command structure for tn3270 is that of the 4.3 telnet, rather than the 4.2 telnet (which was the command structure for the older versions of tn3270).

- A new command, transcom, has been added. This allows users to write (somewhat intricate) programs which can communicate, in ASCII, with programs in the IBM host that talk "transparent" mode. This may be useful for communicating graphics data to the terminal. For more information on this feature, please see "man new tn3270" (and, on the Sun systems, "man tk3270").

This is version 2 of tn3270.

Files (and directories):

- ANNOUNCE: A description of the new functions and fixes in this version of tn3270.
- README: This file.
- curses: The 4.3 curses package, which allows PUTCHAR to be defined (needed only if NOT43 is defined; see tn3270/makefile) for the Sun and VAX computers. These do NOT include the source for curses, just two .a files (in curses/sun and curses/vax).
- include: Contains arpa/telnet.h (for 4.2 sites). In addition, include/curses.h is the include file that MUST be used if the libcurses files in curses/vax/libcurses.a or curses/sun/libcurses.a are going to be used.
- man: Contains man pages in man/man1 and man/man5.
- telnet.c: Provides telnet protocol support for tn3270. This is essentially the 4.3 telnet.c; for tn3270 use, this must be compiled with -DTN3270.
- tn3270: The actual code for tn3270. Note that the names of many of the files have changed. In addition, a new "make" target exists named "prt3270". This will generate a small program which interprets 3270 data streams (as printed out by "toggle netdata"); hopefully this won't be needed by many people, but will be useful to those in need.
- transcom: An example of a transcom command driver; for using tektool on Suns. This directory includes the man page entry for the comand driver (tk3270).

Thanks go to Bob Braden, now at ISI, for his help in making tn3270 speak correctly in a 3278 environment; Alan Crosswell, at Columbia, for working on alternate screen sizes; Cliff Frost, at Berkeley, for help in the MS-DOS area; Steve Jacobson, at Berkeley, for lots of work in the area of mset and transcom; and Jane Wolff, at Berkeley, for helping keep the documentation intelligible to the user community.

There are comments in the code which might lead the casual reader to think that possibly an MS-DOS version of tn3270 exists. This is, in fact, true. We run with the Ungermann-Bass boards (which implement TCP/IP on board). We plan on distributing the entire "tn3270 on a PC" package at some point, but packaging is a problem. Not only does one need the tn3270 source (which is what you have here), but one needs: the right C compiler (we use the MetaWare compiler), 4.2 socket emulation code (which we wrote), minimal curses (which, again, we wrote - but would be useless outside of a tn3270 environment), and some C library stuff (as in (3N), mostly). People interested in the MS-DOS version should probably contact me directly.

DOCUMENTATION:

See above

CPU:

Any

O/S:

UNIX

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Distributed via FTP on the ARPA Internet

CONTACT:

Greg Minshall, (minshall@berkeley.edu), (415) 642-0530

INFORMATION-UPDATED:

November 1986

2.11.20. Excelan System V

PRODUCT-OR-PACKAGE-NAME: EXOS 8015 TCP/IP Network Software for VAX/UNIX System V

DESCRIPTION:

Excelan's EXOS 8015 implements DoD TCP/IP protocols to connect DEC VAXs running UNIX System V to Ethernet networks. EXOS 8015 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 204 Intelligent Ethernet Controller for UNIBUS. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet, ud and R-utilities) run on the VAX. EXOS 8015 applications also include C program socket library and network administration utilities.

DOCUMENTATION:.

EXOS 8015 TCP/IP Network Software for VAX/UNIX System V Reference Manual

CPU:

DEC VAX-11 in conjunction with EXOS 204 Intelligent Ethernet Controller

O/S:

UNIX System V (AT&T System 5.2.0 V2, paging)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.11.21. Spider Systems System V

PRODUCT-OR-PACKAGE-NAME: S-TCP

DESCRIPTION:

S-TCP is a TCP/IP protocol package, primarily for the LAN environment, which supports TCP, UDP, IP, ICMP and ARP. Standard FTP and TELNET applications are available, together with UNIX-style "r" utilities. The package is available for UNIX System V.3 streams, with which it is fully integrated, or unbundled for use on protocol processor boards or other network devices. In the UNIX environment, these protocols form the basis of the Sun Network File System (NFS), and can be used to support the Newcastle Connection. Spider Systems can port this software to any environment.

DOCUMENTATION:

Available from vendor

CPU:

Any

O/S:

UNIX

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Spider Systems Limited
65 Bonnington Road
Edinburgh
EH6 5JQ
Scotland

CONTACT:

Tony Tidswell or Colin Scott, +44 (031) 554-9197

PROPRIETY-STATUS:

Spider Systems

INFORMATION-UPDATED:

November 1986

2.11.22. UNIQ System V

PRODUCT-OR-PACKAGE-NAME: PASSAGE TCP/IP

DESCRIPTION:

PASSAGE TCP/IP is a complete implementation of TCP/IP that allows a UNIX System V (5.2) to participate as a routing or nonrouting (end) host over a wide spectrum of communication systems ranging from hard-wired connections to packet-switched or circuit-switched networks. It communicates with adjacent hosts over synchronous communication lines, Ethernet, LANs, and standard 1822 interface to an IMP. Features include TCP/IP, ICMP, Telnet, FTP, UDP, and SMTP. Plans are to implement X.25 in the near future.

DOCUMENTATION:

Included in package

CPU:

DEC VAX-11, DEC PDP-11 (Ethernet only)

O/S:

UNIX System V (5.2)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

UNIQ Digital Technologies
28 S. Water St.
Batavia, Ill 60510
(312) 879-1008

CONTACT:

Sales department (see above)

ORDERING-PROCEDURE:

Contact distributor

PROPRIETY-STATUS:

PASSAGE is a product of UNIQ Digital Technologies.

INFORMATION-UPDATED:

January 1986

2.11.23. Wollongong System V

PRODUCT-OR-PACKAGE-NAME: WIN/SVX

DESCRIPTION:

This TCP/IP implementation includes Telnet (remote login), FTP (file transfer), SMTP (Mail) Netstat, Finger, TFTP. Supports the following network interfaces:

- Interlan Ethernet Controller
- DEC DEUNA/DELUA Ethernet Controller
- EXCELAN Ethernet Controller

DOCUMENTATION:

Installation Guide, Programmers Guide, QIO Guide, WINS TCP/IP Primer and Users Manual provided

CPU:

DEC VAX

O/S:

UNIX System V (5.2 and greater)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Wollongong Group
1129 San Antonio Road
Palo Alto, CA 94303

CONTACT:

Dave Preston, Wollongong Sales, (415) 962-7200

ORDERING-PROCEDURE:

Available with support from The Wollongong Group

PROPRIETY-STATUS:

Wollongong

INFORMATION-UPDATED:

August 1986

2.11.24. Excelan MicroVMS

PRODUCT-OR-PACKAGE-NAME: EXOS 8044 TCP/IP Net Software for MicroVAX/MicroVMS

DESCRIPTION:

Excelan's EXOS 8044 implements DoD TCP/IP protocols to connect DEC MicroVAX IIs running MicroVMS to Ethernet networks. EXOS 8044 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 203 Intelligent Ethernet Controller for Q-bus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet, SMTP, rsh) run on the MicroVAX. EXOS 8044 user applications also include QIO programming library and network administration utilities.

DOCUMENTATION:

EXOS 8044 TCP/IP Network Software for MicroVAX/MicroVMS Systems Reference Manual

CPU:

DEC MicroVAX II in conjunction with EXOS 203 Intelligent Ethernet Controller

O/S:

MicroVMS (v4.1 - v4.5)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.11.25. Excelan VMS

PRODUCT-OR-PACKAGE-NAME: EXOS 8043 TCP/IP Network Software for VAX/VMS Systems

DESCRIPTION:

Excelan's EXOS 8043 implements DoD TCP/IP protocols to connect DEC VAXs running VMS to Ethernet networks. EXOS 8043 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 204 Intelligent Ethernet Controller for UNIBUS. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet, SMTP, rsh) run on the VAX. EXOS 8043 user applications also include QIO programming library and network administration utilities.

DOCUMENTATION:

EXOS 8043 TCP/IP Network Software for VAX/VMS Systems Reference Manual

CPU:

DEC VAX-11 7XX, 8600, 8200 in conjunction with EXOS 204 Intelligent Ethernet Controller

O/S:

VMS (v4.1 - v4.5)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.11.26. Network Solutions OPEN-Link

PRODUCT-OR-PACKAGE-NAME: OPEN-Link for VAX/VMS

DESCRIPTION:

OPEN-Link is a series of communications software and hardware products which meet the Defense Communications Agency MIL-STDs for the Defense Data Network, for use on any of the DDN networks, such as ARPANET, MILNET, etc. These products also conform to the conventions of the UNIX 4.2 BSD implementation of these protocols for use with the many popular UNIX based graphic workstations, such as SUN, APOLLO, CIMLINK, CADNETIX, and others.

OPEN-Link supplies TCP/IP communication protocol software products, an Application Programming Interface to TCP functions for PASCAL, C and Assembly, and the MIL-STD applications File Transfer (FTP), Virtual Terminal (TELNET), and Simple Mail Transfer (SMTP).

OPEN-Link for VAX and MicroVAX VMS systems support Ethernet and DDN X.25 communications links. Ethernet attachment is through DEUNA, DELUA, DEBNT, or DEQNA controller boards. DDN X.25 attachment is through a "standard" certified ACC board (ACC 6250 or 5250). DDN LHDH attachment is also supported through the ACC LHDH controller. The X.25 connection can also be made certifiable to certain commercial X.25 networks such as GTE TELENET, TYMNET and others.

OPEN-Link software can concurrently operate with DECNET in a single VAX or MicroVAX system sharing a single DEUNA or DEQNA board Ethernet connection. This enables a low cost bridge function to operate between the two Ethernet networks.

Similarly, OPEN-Link supports both an X.25 and Ethernet connection in the same system, enabling operation of a LAN to Wide Area Network bridge function.

DOCUMENTATION:

A full set of documentation is available.

CPU:

DEC VAX-11, MicroVAX, 8000 series

O/S:

VMS 4.X

IMPLEMENTATION-LANGUAGE:

C and PASCAL

DISTRIBUTOR:

Network Solutions
Products Group
8229 Boone Blvd., 7th floor
Vienna, VA 22180

CONTACT:

Mary Bloch, (703) 749-1900

ORDERING-PROCEDURE:

Submit purchase order to above address; see above contact for pricing

PROPRIETY-STATUS:

Product of Network Solutions

INFORMATION-UPDATED:

August 1987

2.11.27. Softsel VMS

PRODUCT-OR-PACKAGE-NAME: SOFTSEL-VMS

DESCRIPTION:

Software implementation of File Transfer Protocol (FTP), Network Virtual Terminal Protocol (TELNET) and Simple Mail Transfer Protocol (SMTP). Runs on top of TCP/IP or NETEX (using a separate TCP Emulator).

DOCUMENTATION:

Online VAX/VMS HELP and installation instructions are provided.

CPU:

VAX family

O/S:

VMS (Versions 4.0 and higher)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Softsel Incorporated
601 Ewing Street
Princeton, NJ 08540
(601) 683-1150

ORDERING-PROCEDURE:

Contact SCP Product Manager at Softsel Incorporated, (601) 683-1150

PROPRIETY-STATUS:

Proprietary product of Softsel Incorporated

(NETEX is a trademark of Network Systems Corporation)

INFORMATION-UPDATED:

December 1985

2.11.28. SRI VMS

PRODUCT-OR-PACKAGE-NAME: MULTINET

DESCRIPTION:

MultiNet is a VAX/VMS kernel resident Multi-Protocol network environment currently supporting the TCP/IP family of protocols, the Xerox NS (XNS) protocol, the Xerox PUP protocol and the CHAOSnet protocol. The TCP/IP and XNS protocol modules are derived from the Berkeley UNIX 4.3 BSD system. The CHAOSnet protocol is supported on both 10Mb Ethernet and 3Mb Chaosnet hardware.

A full suite of user/server programs are provided for all the protocol families. In particular, the TCP/IP family (TCP, UDP, ICMP and IP) provides user and server programs for FTP, SMTP, TFTP, TELNET and FINGER. EGP is provided for configuring systems as Internet gateways and rlogin, rsh, rcp, rwho and TCP/uucp are provided for systems running the Eunice UNIX emulator.

This product supports the full range of VAX processors, from MicroVAX to 8800. The following network interfaces are supported:

- Interlan Ethernet Interface
- DEC Deuna/Dequna/Delua Ethernet Interface
- 3Com Ethernet Interface
- ACC LH-DH 1822 Interface
- ACC HDH Interface
- ACC X.25 DDN Interface
- DEC DMC/DMR-11 Interface
- XEROX 3Mb Ethernet Interface
- Excelan EXOS 204 Interface
- Network Systems Hyperchannel Interface
- DEC CSS PCL-11B Parallel Communications Interface
- Ungermann-Bass network/DR11-W Interface
- Proteon ProNET Ring Interface
- CHAOS 3MB network interface

DOCUMENTATION:

Installation and User's Manual, networking primers

CPU:

DEC VAX-11

O/S:

VAX/VMS 4.4 or greater

IMPLEMENTATION-LANGUAGE:

C - (may be compiled using the Eunice UNIX emulator or cross-compiled on any VAX running UNIX 4.2 BSD or UNIX 4.3 BSD)

DISTRIBUTOR:

SRI International
333 Ravenswood Ave.
Menlo Park, CA 94025

CONTACT:

Desiree Champagne, (415) 859-6083

ORDERING-PROCEDURE:

Available with minimal support but sources are included

PROPRIETY-STATUS:

SRI International

INFORMATION-UPDATED:

February 1987

2.11.29. Tektronix MicroVMS

PRODUCT-OR-PACKAGE-NAME: Tektronix 41P37 Protocol Microlink

DESCRIPTION:

An implementation of Telnet, FTP, TCP/IP and ARP for MicroVAX II running VMS 4.2. Supports the DEQNA Ethernet Board.

CPU:

MicroVAX II

O/S:

MicroVMS 4.2

IMPLEMENTATION-LANGUAGE:

BLISS

DISTRIBUTOR:

Tektronix Inc.
P.O. Box 1000
Wilsonville, OR 97070
(800) 547-1512

CONTACT:

Mark Bell, (800) 547-1512

ORDERING-PROCEDURE:

Call number above, ask for nearest field office

PROPRIETY-STATUS:

Copyright protected; product for sale

INFORMATION-UPDATED:

August 1986

2.11.30. Tektronix VMS

PRODUCT-OR-PACKAGE-NAME: VAX/VMS

DESCRIPTION:

This implementation runs under VAX 780/VMS. It has a HYPERchannel interface with a home-grown VMS driver. TCP/IP from 3COM interoperates with VMS TCP/IP over HYPERchannel. They have added TCP and IP options to UNET. Currently, there is no plan to market TCP/IP software, although it is available to the network research community for internal use only. Support has been added for Ethernet using an Interlan driver.

- TCP: Has no security or precedence.
- IP: No datagram reassembly or fragmentation. Neither Internet control protocol nor gateway protocol have been implemented. There are no plans to implement fragmentation.
- FTP: Not compatible with UNIX 4.2 BSD but compatible with 3COM's implementation of FTP. There are plans, however, to make it compatible with UNIX 4.2 BSD.

DOCUMENTATION:

Source is well-commented

CPU:

VAX/780,750 and any DEC machine running VMS (including micros)

O/S:

UNIX for UNET, VMS for homegrown TCP/IP

IMPLEMENTATION-LANGUAGE:

BLISS (an equivalent of C) and some MACRO

DISTRIBUTOR:

Tektronix Inc.
PO Box 500
Stop 50/454
Beaverton, OR 97077

CONTACT:

Jeff Mulick, (jeffm%tektronix@RELAY.CS.NET), (503) 627-5007

ORDERING-PROCEDURE:

Contact Jeff Mulick

PROPRIETY-STATUS:

Not available for OEM resale

2.11.31. Wollongong MicroVMS

PRODUCT-OR-PACKAGE-NAME: WIN/MicroVX

DESCRIPTION:

This TCP/IP implementation includes Telnet (remote login), FTP (file transfer), SMTP (Mail) Netstat, Finger, TFTP. Supports the DEC DEUNA Ethernet Controller and the ACC X.25 interface (For WIN/MicroVX).

DOCUMENTATION:

Installation Guide, Programmers Guide, QIO Guide, WINS TCP/IP Primer, Reference Guide and Users Manual provided

CPU:

DEC MicroVAX I and II

O/S:

Micro VMS 4.0 or greater

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Wollongong Group
1129 San Antonio Road
Palo Alto, CA 94303

CONTACT:

Dave Preston, Wollongong Sales, (415) 962-7200

ORDERING-PROCEDURE:

Available with support from The Wollongong Group

PROPRIETY-STATUS:

Wollongong

INFORMATION-UPDATED:

August 1986

2.11.32. Wollongong VMS

PRODUCT-OR-PACKAGE-NAME: WIN/VX

DESCRIPTION:

This TCP/IP implementation includes Telnet (remote login), FTP (file transfer), SMTP (Mail) Netstat, Finger, TFTP. Supports the following network interfaces:

- ACC X.25 (For WIN/VX (DDN))
- ACC LH-DH (1822 interface)
- ACC HDH (1822-J) (For WIN/VX (DDN))
- DEC DEUNA/DELUA Ethernet Controller
- Interlan Ethernet Controller
- DEC DMR-11

DOCUMENTATION:

Installation Guide, Programmers Guide, QIO Guide, WINS TCP/IP Primer, Reference Guide and Users Manual provided

CPU:

VAX-11

O/S:

VMS 4.x and greater

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Wollongong Group
1129 San Antonio Road
Palo Alto, CA 94303

CONTACT:

Dave Preston, Wollongong Sales, (415) 962-7200

ORDERING-PROCEDURE:

Available with support from The Wollongong Group

PROPRIETY-STATUS:

Wollongong

INFORMATION-UPDATED:

August 1986

2.11.33. Softsel Gateway

PRODUCT-OR-PACKAGE-NAME: SOFTSEL-GATEWAY

DESCRIPTION:

Software implementation of translating gateway that allows the connection of NETEX based networks (such as HYPERchannel, HYPERbus and DATApipe) to TCP/IP based networks. Runs in an environment with both TCP/IP and NETEX.

DOCUMENTATION:

Online VAX/VMS HELP and installation instructions are provided for the VMS implementation and UNIX man pages for the UNIX implementation.

CPU:

VAX family

O/S:

VMS (Versions 4.0 and higher) UNIX 4.2 BSD

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Softsel Incorporated
601 Ewing Street
Princeton, NJ 08540
(601) 683-1150

ORDERING-PROCEDURE:

Contact SCP Product Manager at Softsel Incorporated, (601) 683-1150

PROPRIETY-STATUS:

Proprietary product of Softsel Incorporated

(NETEX, HYPERchannel, HYPERbus and DATApipe are trademarks of Network Systems Corporation)

INFORMATION-UPDATED:

December 1985

2.11.34. TENEX/FOONEX/AUGUST

DESCRIPTION:

SRI has implemented TCP/IP for the TENEX (FOONEX and AUGUST) operating system running on DEC-10 KA or KI and F2, F3 or F4 Foonly processors. It was adapted from the BBN and ISI versions of TENEX TCP/IP, with contributions from Ed Taft of Xerox and Phil French of Tymshare, and resides in the operating system. It is largely upward-compatible with TOPS-20 implementations and fully compatible with AUGMENT. Telnet, FTP, SMTP, ICMP, ECHO, TIME, WHOIS, and NAME service are available although some are still under development.

This is an implementation done at BBN. DARPA has dropped funding for continued support for Tenex development, and thus the latest versions done for BBN and DEC for TOPS-20 are not available for Tenex.

DOCUMENTATION:

None available at this time other than that embedded in the programs

CPU:

DEC-10 (KA, KI), Foonly (F2,F3,F4)

O/S:

TENEX-134,135/FOONEX/AUGUST

IMPLEMENTATION-LANGUAGE:

MACRO

DISTRIBUTOR:

SRI International
DDN Network Information Center
Room EJ274
333 Ravenswood Ave.
Menlo Park, CA 94025

CONTACT:

Vivian Neou, (VIVIAN@SRI-NIC.ARPA), (415) 859-4781

ORDERING-PROCEDURE:

Contact Vivian Neou

PROPRIETY-STATUS:

DCA-owned software

INFORMATION-UPDATED:

January 1986

2.11.35. LLL TOPS-10

DESCRIPTION:

A TOPS-10 implementation was begun by Don Provan while at WPAFB-AFWAL and was completed by him at LLL-MFE. There have been no serious problems since April of 1983. System supports IP/ICMP and TCP. User level software available for FTP and Telnet connections.

DOCUMENTATION:

Scarce: existing code (both system code and user level code) is the only reliable source of information; user level code maintained by nedved@CMU-CS-A.ARPA

CPU:

PDP-10 or PDP-10 look alikes

O/S:

TOPS-10 (also runs under WAITS at SU-AI)

IMPLEMENTATION-LANGUAGE:

MACRO-10

DISTRIBUTOR:

Don Provan
Lawrence Livermore Laboratory
MFE Computer Center
P.O. Box 5509
Livermore, CA 94550

CONTACT:

Don Provan, (provan%mtxinu!excelan!donp@UCBVAX.BERKELEY.EDU), (408) 434-2354

ORDERING-PROCEDURE:

All files are in [70,71,monitor]@LLL-MFE, available via FTP; also available on 9-track tape

2.11.36. MIT ITS

DESCRIPTION:

This is a TCP/IP implementation that runs under the MIT Incompatible Timesharing System (ITS) on DEC-10/20 machines (KA or KL), written by Ken Harrenstien of SRI International under contract to MIT. Includes Telnet, FTP and SMTP. Bug reports and interest group is BUG-TCP@MIT-MC.ARPA.

DOCUMENTATION:

Available from contact

CPU:

DEC-10/20 (KA and KL)

O/S:

ITS

IMPLEMENTATION-LANGUAGE:

MIDAS(PDP-10)

DISTRIBUTOR:

MIT, Cambridge, MA

CONTACT:

Ken Harrenstien, (KLH@SRI-NIC.ARPA)
SRI International, Room EJ200
333 Ravenswood Avenue
Menlo Park, CA 94025
(415) 859-3695

ORDERING-PROCEDURE:

Appropriate files can be FTPed across the network; contact KLH@SRI-NIC.ARPA for more information.

PROPRIETY-STATUS:

MIT-proprietary software

2.11.37. BBN TOPS-20

PRODUCT-OR-PACKAGE-NAME: BBN-TOPS-20

DESCRIPTION:

The TOPS20 Internetworking software supports multiple networks, multiple interfaces on a single network, and multiple protocol suites. Included in the standard distribution are an interface to 1822 nets via an AN20, an interface to a network front-end via a DTE20, and the DARPA protocol suite (DEC is developing an Ethernet interface).

The DARPA IP, ICMP, TCP, Server TELNET protocols are included within the TOPS20 monitor; other protocols are implemented as user application processes. The IP module supports a routing cache maintained via ICMP redirect NET and HOST messages. It performs fragmentation and reassembly, implements all options and can forward traffic between any of the host's interfaces. Applications may interface to the IP layer using User Queues.

All ICMP messages are supported; error messages may be sent by any of the protocol layers; higher layers are notified when a message is received concerning one of their packets. Messages can be sent by applications using the User Queue facility.

Applications can interface to TCP either as a read/write file or via multiple buffers. The TCP layer supports IP routing options, ICMP destination unreachable, source quench, and redirects which specify a type-of-service, and the segment size option. Support for preemption, precedence, and security options is delegated to the application. Telnet supports options and subnegotiations.

There is extensive inter-layer flow control, error reporting, and monitoring. Utilities are available to provide information, list monitoring data, and perform diagnostics.

DEC has distributed a prior version of this implementation as part of its standard TOPS20-AN monitor; the current version is currently being transferred to DEC.

DOCUMENTATION:

User's Manual including Site Configuration Guide

CPU:

DEC KL10

O/S:

TOPS20-AN, Release 5 or 6

IMPLEMENTATION-LANGUAGE:

Macro

DISTRIBUTOR:

Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, MA 02238

CONTACT:

Charles Lynn, (CLynn@BBN.COM), (617) 497-3367

ORDERING-PROCEDURE:

The latest software release should soon be available as part of the standard DEC TOPS20-AN monitor. Until the transfer process has been completed, the software is available via FTP over the internet, or by sending a magtape to:

Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, MA 02238
Attn: Charles Lynn

A return mailing label should be included. Also required is a TOPS-20 Source License and the TOPS-20 monitor sources, as the implementation includes source-level changes to the standard DEC monitor.

PROPRIETY-STATUS:

Public domain

INFORMATION-UPDATED:

January 1986

2.11.38. DEC TOPS-20

PRODUCT-OR-PACKAGE-NAME: TOPS-20AN

DESCRIPTION:

Based on the DARPA sponsored TCP/IP implementation for TOPS-20 with major modifications. The BBN TCP/IP software was merged into the standard supported TOPS-20, and a different JSYS interface was implemented that utilized the existing TOPS-20 I/O JSYSs by adding a logical device for TCP. Supports: the 1822 interface, DEC NI20 Ethernet interface and the DEC CI20 computer interconnect.

DOCUMENTATION:

Hardware manuals, print sets, diagnostics write-up and descriptions in the TOPS-20 software notebooks.

CPU:

DEC KL10E or KL10R

O/S:

TOPS-20, Release 6.1

IMPLEMENTATION-LANGUAGE:

PDP10/TOPS-20 assembler

DISTRIBUTOR:

Digital Equipment Corporation
200 Forest St.
Marlboro, MA 01752

CONTACT:

Jim McCollum, (McCollum@TOPS20.DEC.COM), MR01-2/L10, (617) 467-4635

ORDERING-PROCEDURE:

See your local DEC salesman.

PROPRIETY-STATUS:

Licensed by DEC

INFORMATION-UPDATED:

April 1986

2.11.39. Panda TOPS-20 EGP

PRODUCT-OR-PACKAGE-NAME: EGP-20

DESCRIPTION:

EGP-20 is a subset implementation of the Exterior Gateway Protocol (EGP) which allows a DECSYSTEM-20 to be used as an IP gateway. TOPS-20 provides a "dumb gateway" facility; however, all new gateways are required to negotiate EGP to announce their availability to their neighbor gateways.

DOCUMENTATION:

Online included with package

CPU:

DECSYSTEM-20

O/S:

TOPS-20 version 5.3 or later

IMPLEMENTATION-LANGUAGE:

MACRO-20 (DECSYSTEM-20 assembly language)

DISTRIBUTOR:

PANDA PROGRAMMING
1802 Hackett Ave., Rainbow Suite
Mountain View, CA 94043-4431

CONTACT:

Mark Crispin, (MRC%PANDA@SUMEX-AIM.STANFORD.EDU), (415) 968-1052

ORDERING-PROCEDURE:

Call for pricing and ordering information.

PROPRIETY-STATUS:

Panda Programming propriety

INFORMATION-UPDATED:

July 1986

2.11.40. Panda TOPS-20 Mail

PRODUCT-OR-PACKAGE-NAME: MM-20

DESCRIPTION:

MM-20 is an electronic mailsystem for the DECSYSTEM-20 family. MM-20 incorporates mail reading, mail queueing, mailbox/mailing lists, SMTP (DoD Internet mail transport protocol), "sends", and external queue management tools. MM-20 supports the following protocols: DoD Internet TCP/IP/SMTP, DECnet using SMTP, Chaos, and Pup. A facility also exists for adding additional delivery routines (e.g. mailing over asynchronous TTY lines).

DOCUMENTATION:

Online included with package

CPU:

DECSYSTEM-20

O/S:

TOPS-20 version 4 or later (version 5.3 or later is required for TCP/IP support)

IMPLEMENTATION-LANGUAGE:

MACRO-20 (DECSYSTEM-20 assembly language)

DISTRIBUTOR:

PANDA PROGRAMMING
1802 Hackett Ave., Rainbow Suite
Mountain View, CA 94043-4431

CONTACT:

Mark Crispin, (MRC%PANDA@SUMEX-AIM.STANFORD.EDU), (415) 968-1052

ORDERING-PROCEDURE:

MM-20 is available for a nominal charge to cover media and shipping costs; call for current information.

PROPRIETY-STATUS:

Public Domain

INFORMATION-UPDATED:

July 1986

2.11.41. Panda TOPS-20 NETSRV

PRODUCT-OR-PACKAGE-NAME: NETSRV

DESCRIPTION:

NETSRV is a multi-process listener and server for a number of the major Internet service protocols. It replaces such programs as FTSCTT and SMTPSV. NETSRV is based on a similar program for the old NCP protocols.

DOCUMENTATION:

Online included with package

CPU:

DECSYSTEM-20

O/S:

TOPS-20 version 5.3 or later

IMPLEMENTATION-LANGUAGE:

MACRO-20 (DECSYSTEM-20 assembly language)

DISTRIBUTOR:

PANDA PROGRAMMING
1802 Hackett Ave., Rainbow Suite
Mountain View, CA 94043-4431

CONTACT:

Mark Crispin, (MRC%PANDA@SUMEX-AIM.STANFORD.EDU), (415) 968-1052

ORDERING-PROCEDURE:

Bundled as part of the "PANDA MODIFICATIONS TO TOPS-20"; call for separate ordering information.

PROPRIETY-STATUS:

Panda Programming propriety

INFORMATION-UPDATED:

July 1986

2.11.42. Panda Modifications to TOPS-20

PRODUCT-OR-PACKAGE-NAME: PANDA MODIFICATIONS TO TOPS-20

DESCRIPTION:

The PANDA MODIFICATIONS TO TOPS-20 consists of a set of extensions and bug fixes to TOPS-20. These include many of the public domain extensions to TOPS-20 published on the "ARPANET TOPS-20 list" as well as many extensions unique to the PANDA MODIFICATIONS including facilities to operate TOPS-20 in networking configurations not supported by DEC.

The PANDA MODIFICATIONS TO TOPS-20 are distributed as a set of REDIT-format change files and therefore are only available to sites with a valid DEC TOPS-20 source license.

DOCUMENTATION:

Online included with package

CPU:

DECSYSTEM-20

O/S:

TOPS-20 version 5.4; TOPS-20 version 6.1 modifications will be available soon.

IMPLEMENTATION-LANGUAGE:

MACRO-20 (DECSYSTEM-20 assembly language)

DISTRIBUTOR:

PANDA PROGRAMMING
1802 Hackett Ave., Rainbow Suite
Mountain View, CA 94043-4431

CONTACT:

Mark Crispin, (MRC%PANDA@SUMEX-AIM.STANFORD.EDU), (415) 968-1052

ORDERING-PROCEDURE:

Call for pricing and ordering information.

PROPRIETY-STATUS:

Panda Programming propriety

INFORMATION-UPDATED:

July 1986

2.11.43. Panda TOPS-20 Telnet

PRODUCT-OR-PACKAGE-NAME: TELNET-20

DESCRIPTION:

TELNET-20 implements the user half of the Internet TELNET protocol. It also supports Chaos, Pup, and DECnet protocols.

DOCUMENTATION:

Online included with package

CPU:

DECSYSTEM-20

O/S:

TOPS-20 version 5.3 or later

IMPLEMENTATION-LANGUAGE:

MACRO-20 (DECSYSTEM-20 assembly language)

DISTRIBUTOR:

PANDA PROGRAMMING
1802 Hackett Ave., Rainbow Suite
Mountain View, CA 94043-4431

CONTACT:

Mark Crispin, (MRC%PANDA@SUMEX-AIM.STANFORD.EDU), (415) 968-1052

ORDERING-PROCEDURE:

Bundled as part of the "PANDA MODIFICATIONS TO TOPS-20"; an earlier version is distributed by DEC.

PROPRIETY-STATUS:

Panda Programming propriety

INFORMATION-UPDATED:

July 1986

2.11.44. NFS-20

PRODUCT-OR-PACKAGE-NAME: NFS-20

DESCRIPTION:

NFS-20 is a subset implementation of an NFS server for TOPS-20. It includes UDP, XDR and RPC libraries and utility and statistics programs.

DOCUMENTATION:

Online included with package

CPU:

DECSYSTEM-20

O/S:

TOPS-20 version 5.3 or better

IMPLEMENTATION-LANGUAGE:

MIDAS (assembler)

DISTRIBUTOR:

Mark Lottor
SRI International
333 Ravenswood Ave
Menlo Park, CA 94025

CONTACT:

Mark Lottor, (MKL@SRI-NIC.ARPA), (415) 859-2652

ORDERING-PROCEDURE:

NFS-20 is free. Call for info on how to get a copy.

PROPRIETY-STATUS:

Public domain

INFORMATION-UPDATED:

August 1987

2.12. ELXSI

2.12.1. ELXSI Fusion TCP/IP

PRODUCT-OR-PACKAGE-NAME: ELXSI Fusion TCP/IP

DESCRIPTION:

Implementation of FTP and Telnet for ELXSI machines running release 10 or later. Also included are packet-monitoring and statistics utilities. Later releases will include networking libraries.

DOCUMENTATION:

Manuals and on-line documentation

CPU:

ELXSI 6400

O/S:

Embos, Enix System V, Enix 4.2

IMPLEMENTATION-LANGUAGE:

C and Pascal

DISTRIBUTOR:

ELXSI Inc.
2334 Lundy Place
San Jose, CA 95131

CONTACT:

Bob Hedges, (408) 942-0900

ORDERING-PROCEDURE:

Through sales representatives

PROPRIETY-STATUS:

Source and object code for sale

INFORMATION-UPDATED:

August 1985

2.13. Gould

2.13.1. Gould MPX-32

PRODUCT-OR-PACKAGE-NAME: MPX-32 TCP/IP

DESCRIPTION:

An implementation of the Department of Defense Protocols for Gould CONCEPT/32 machines running the MPX-32 (Release 3.2B or later) Operating System. This includes IP and TCP. UDP, TFTP, FTP, Telnet and SMTP will be implemented during 1986.

DOCUMENTATION:

Operation and installation procedures are covered by standard Gould, CSD documentation.

CPU:

All CONCEPT/32 machines

O/S:

MPX-32 (Release 3.2B or later)

DISTRIBUTOR:

Gould Inc. Computer Systems Division
6901 West Sunrise Boulevard
Ft. Lauderdale, FL 33313-4499

CONTACT:

Don Zwonitser, Product Line Manager - Communications, (305) 587-2900

INFORMATION-UPDATED:

January 1986

2.14. Harris Corporation

2.14.1. Harris Computer Systems

PRODUCT-OR-PACKAGE-NAME: X.25 with TCP/IP Protocols (DDN)

DESCRIPTION:

The Harris X.25 with DDN products provides the necessary software and hardware to connect to the Defense Data Network (DDN).

The following DoD protocols are supported:

- Transmission Control Protocol MIL STD 1778 - The Internet TCP protocol is the transport protocol supported for the DoD network.
- Internet Protocol (IP) MIL STD 1777 - IP is an internetwork protocol that provides datagram service, a virtual network service, and an error reporting service to transport layer protocols.
- Internet Control Message Protocol - ICMP provides information useful to the higher layer (TCP) in recovering from network failures.
- File Transfer Protocol - The File Transfer utility program uses the TCP/IP protocols to provide reliable and efficient file transfer between two Internet hosts.
- Telnet - Virtual Terminal - Telnet allows users to sign on and execute applications on any host on the Internet. The Telnet protocol handles the conversions necessary for terminal-to-host compatibility.
- Simple Mail Transfer Protocol - SMTP supports electronic message transfer over the DDN network and relies on the provisions of the protocol for the exchange of messages between dissimilar mail application programs.

DOCUMENTATION:

For Harris H-Series Systems:

- Harris TCP/IP Manager's Guide (0868011-100)
- Harris TCP/IP User's Guide (0868012-100)

For HCX systems:

- HCX/UX Networking Reference Manual (0890118-201)

For MCX systems:

- Internet User's Guide
- Internet Programmers Guide

CPU:

Harris H-Series systems, HCX systems, and MCX systems

O/S:

Harris H-Series: VOS 5.1 or later

HCX: HCX/UX 2.4 or later

MCX: HS/UX 3.0 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Harris Computer Systems Division
Local Harris Sales Office

CONTACT:

Joseph Fedak
Harris Computer Systems Division
2101 W. Cypress Creek Road
Fort Lauderdale, FL 33309
(305) 974-1700

ORDERING-PROCEDURE:

Contact Joseph Fedak or your local Harris Sales Office.

PROPRIETY-STATUS:

Proprietary product of Harris Computer Systems Division

DDN-QUALIFIED:

Yes for H-Series and MCX; Late 1987 for HCX

INFORMATION-UPDATED:

June 1987

2.15. Hewlett-Packard

2.15.1. HP-9000 Series 300

PRODUCT-OR-PACKAGE-NAME: Hewlett-Packard NS-ARPA SERVICES/300

DESCRIPTION:

NS-ARPA SERVICES/300 is a local area networking software product for the Hewlett-Packard 9000 Series 300 HP-UX systems. It supports multi-vendor connectivity via ARPA and Berkeley network services, including 4.2 BSD sockets, TELNET, FTP, SMTP/sendmail, rlogin, rcp, and rexec. The product includes LAN diagnostic tools and troubleshooting information for finding problems on the network. Also included in the product are HP Network Services, including transparent remote file access and network file transfer. HP Network Services are used for communication between HP systems as well as VAX/VMS systems.

DOCUMENTATION:

A User's Guide and Node Manager's Guide are provided with the product. Among other topics, these include expanded tutorial sections on Berkeley sockets and sendmail.

CPU:

HP9000 Series 300 (68010/68020 based systems)

O/S:

HP-UX - Release 5.1 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Hewlett-Packard Company
P.O. Box 10301
Palo Alto, CA 94303-0890
(415) 857-1501

CONTACT:

Local HP Sales Office

ORDERING-PROCEDURE:

Contact your local HP Sales Office; order product number 50952B

PROPRIETY-STATUS:

Proprietary product of Hewlett-Packard

INFORMATION-UPDATED:

July 1986

2.15.2. HP-9000 Series 800

PRODUCT-OR-PACKAGE-NAME: Hewlett-Packard ARPA SERVICES/800

DESCRIPTION:

ARPA SERVICES/800 is a local area networking software product for the Hewlett-Packard 9000 Series 800 HP-UX systems. It supports multi-vendor connectivity via ARPA and Berkeley network services, including 4.2 BSD sockets, TELNET, FTP, SMTP/sendmail, rlogin, rcp, and rexec. The product includes LAN diagnostic tools and troubleshooting information for finding problems on the network.

DOCUMENTATION:

A User's Guide and Node Manager's Guide are provided with the product. Among other topics, these include expanded tutorial sections on Berkeley sockets and sendmail.

CPU:

HP9000 Series 800, Model 840

O/S:

HP-UX

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Hewlett-Packard Company
P.O. Box 10301
Palo Alto, CA 94303-0890
(415) 857-1501

CONTACT:

Local HP Sales Office

ORDERING-PROCEDURE:

Contact your local HP Sales Office; order product number 50980A

PROPRIETY-STATUS:

Proprietary product of Hewlett-Packard

INFORMATION-UPDATED:

July 1986

2.16. Honeywell

2.16.1. [DPS6]

PRODUCT-OR-PACKAGE-NAME: DDN6

DESCRIPTION:

The Honeywell DDN6 provides the necessary software, hardware and technical support services for connecting a DPS 6 computer system to the Defense Data Network.

Sixty-four simultaneous sessions are multiplexed over one HDLC link between the Communications Server/1 DDN (CS/1-DDN) and DPS 6. This product currently supports TELNET, SMTP and FTP functionalities. A list of hardware and software components follows:

- LCU1026 CS/1-DDN Communications Server. 68000 based micro-processor with 684 KB RAM. V.35 high speed physical interface.
- CS/1-DDN EXEC Executive software on CS/1-DDN Communications Server hardware. Includes TCP/IP, Honeywell Service Access Protocol (SAP), HDLC-LAP-B, and Federal Standards 1041/FIPS 100 certified X.25.
- SS-6 Virtual Terminal Interface, Honeywell SAP, and HDLC-LAP-B facilities on the DPS 6.
- SMTP-6 Simple Mail Transfer Protocol Facility for the DPS 6.
- FTP-6 File Transfer Protocol Facility for the DPS 6.
- TEL-6 TELNET (Virtual Terminal) Facility for the DPS 6.

TELNET (Virtual Terminal) software supports asynchronous terminals. In addition, application development tools such as Virtual Network Interface (VNI) are available to allow for customizing application packages to run under MOD 400 over the DDN. DDN6 will be available in December 1986.

DOCUMENTATION:

Operator's Guide and Installation Manual for the CS/1-DDN; Software release bulletins, which provide installation instructions, as well as user's guides are provided for TELNET, SMTP and FTP; Application Programmer's Guide for the Virtual Network Interface (VNI) routines.

CPU:

Honeywell DPS6 Family of mini computers: 6/42, 6/45, 6/70, 6/75, 6/85, 6/95, or 6/98.

O/S:

GCOS 6 Mod 400, Release 3.1 Update 3 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Honeywell Information Systems
Federal Systems Divisions
7900 West Park Drive
McLean, VA 22102

CONTACT:

Jim Reda, (703) 448-2099 or Ricki Vick, (703) 827-3894

ORDERING-PROCEDURE:

Contact Jim Reda or local HIS Sales Office

PROPRIETY-STATUS:

Proprietary Product of Honeywell Information Systems

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

October 1986

2.16.2. [DPS8]

PRODUCT-OR-PACKAGE-NAME: DDN8

DESCRIPTION:

The Honeywell DDN8 provides the necessary software, hardware and technical support services for connecting a DPS 8 computer system to the Defense Data Network.

Sixty-four simultaneous sessions are multiplexed over one HDLC link between the Communications Server/1 DDN (CS/1-DDN) and DPS 8/DATANET 8 (DN 8). This DDN8 currently supports TELNET, SMTP and FTP functionalities. A list of hardware and software components follows:

- LCU1026 CS/1-DDN Communications Server. 68000 based micro-processor with 684 KB RAM. V.35 high speed physical interface.
- CS/1-DDN EXEC Executive software on CS/1-DDN Communications Server hardware. Includes TCP/IP, Honeywell Service Access Protocol (SAP), HDLC-LAP-B, and Federal Standards 1041/FIPS 100 certified X.25.
- SS-8 Virtual Terminal Interface, Honeywell SAP, and HDLC-LAP-B facilities on the DPS 8.
- SS-DN Standard Service software for the DN 8
- SMTP-8 Simple Mail Transfer Protocol Facility for the DPS 8.
- FTP-8 File Transfer Protocol Facility for the DPS 8.
- TEL-DN TELNET (Virtual Terminal) Facility for the DN 8.

TELNET (Virtual Terminal) software supports asynchronous terminals. In addition, application development tools such as Virtual Network Interface (VNI) are available to allow for customizing application packages to run under GCOS 8 over the DDN. DDN8 will be available in December 1986.

DOCUMENTATION:

Operator's Guide and Installation Manual for the CS/1-DDN; Software release bulletins, which provide installation instructions, as well as user's guides are provided for TELNET, SMTP and FTP; Application Programmer's Guide for the Virtual Network Interface (VNI) routines.

CPU:

Honeywell DPS8, DPS 88 and DPS 90 Family of Large Scale Computers. DATANET 8 FEP is required. or 6/98.

O/S:

GCOS 8 SR2300 or later; Distributed Network Supervisor (DNS) 200, Update 6 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Honeywell Information Systems
Federal Systems Divisions
7900 West Park Drive
McLean, VA 22102

CONTACT:

Jim Reda, (703) 448-2099 or Ricki Vick, (703) 827-3894

ORDERING-PROCEDURE:

Contact Jim Reda or local HIS Sales Office

PROPRIETY-STATUS:

Proprietary Product of Honeywell Information Systems

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

October 1986

2.16.3. MULTICS

PRODUCT-OR-PACKAGE-NAME: MULTICS TCP/IP Facility

DESCRIPTION:

The Multics implementation includes TCP/IP as well as Telnet, FTP, and SMTP. Support is also available for Finger, Discard, Echo, Time, and ICMP.

DOCUMENTATION:

Online help file supplied

CPU:

Honeywell Level 68, DPS8M

O/S:

Multics MR 10.0 and beyond

IMPLEMENTATION-LANGUAGE:

PL/1

DISTRIBUTOR:

Honeywell Information Systems
Federal Systems Division
7900 Westpark Drive
McLean, VA 22102

CONTACT:

Jim Reda, (703) 448-2099
Honeywell Information Systems
MST 60
P.O. Box 8000
Phoenix, AZ 85065
(602) 249-6629

ORDERING-PROCEDURE:

Contact Jim Reda

PROPRIETY-STATUS:

Honeywell product

INFORMATION-UPDATED:

November 1985

2.17. IBM

2.17.1. Beame IBM-PC

PRODUCT-OR-PACKAGE-NAME: BWTEL/BWKTEL, BWSERTH and related products.

DESCRIPTION:

BWTEL provides a VT100/VT52 emulator that runs (TELNET) TCP/IP protocol on an ethernet. True VT100 emulation is provided, with speed a major consideration.

BWSERTH allows most serial terminal emulators to run (TELNET) TCP/IP on an ethernet network. The interface to the user is Hayes-like.

BWxxx products use the 3COM etherlink board for the IBM-PC and TI/PC.

DOCUMENTATION:

A set of documentation is available

CPU:

IBM-PC and TI/PC and true compatibles

O/S:

MS-DOS or PC-DOS Version 2.0 and above

IMPLEMENTATION-LANGUAGE:

8086 Assembler

DISTRIBUTOR:

Beame & Whiteside Software Ltd.
259 Fiddler's Green Road
Ancaster, Ontario, Canada
L9G 1W9

CONTACT:

Lisa Beame, (416) 648-5866

ORDERING-PROCEDURE:

Submit purchase order to above address; see above contact for pricing

PROPRIETY-STATUS:

Product of Beame & Whiteside Software Ltd.

INFORMATION-UPDATED:

July 1986

2.17.2. Amateur Radio IBM-PC

PRODUCT-OR-PACKAGE-NAME: KA9Q/NET

DESCRIPTION:

This package provides the Internet protocols on the IBM PC running MS-DOS. It was designed primarily for amateur packet radio use. Except where otherwise noted, it was designed and written by Phil Karn, KA9Q (karn@louie.udel.edu).

The following protocols are included:

1. SMTP client and server. The server does not support aliasing or forwarding; all recipients must be local. A standalone command for sending mail is included in the distribution; it was written by Bdale Garbee, N3EUA (bdale%winfree.uucp@flash.bellcore.com).

2. FTP client and server. Image and ASCII types are supported. There is no access control as yet on the server (this is difficult to do under MS-DOS).

3. Telnet client and "server". The client understands the ECHO option. The "server" merely allows for keyboard-to-keyboard chatting, since MS-DOS isn't a timesharing system.

4. TCP echo and discard servers.

5. TCP. Multiple connections are supported. A lot of work has gone into tuning the implementation for operation over a VERY bad path, namely the amateur packet radio channel.

6. UDP.

7. IP/ICMP. At present only manually specified default and host-specific routing table entries are supported ("fully connected subnets" do not as yet exist in amateur packet radio). Most of the useful IP and ICMP options are supported.

8. Ethernet/ARP, for the 3-Com 3C-500 controller.

9. SLIP, compatible with Rick Adam's driver under Berkeley UNIX. The PC's regular asynchronous adapter ports are used.

10. AX.25/ARP, a special serial line mode for operation atop the amateur packet radio link level protocol AX.25. IP datagrams are encapsulated in AX.25 UI (connectionless) frames. ARP resolves IP addresses into AX.25 callsigns. The resulting packets are sent out the asynch port in SLIP-style framing to a TNC (Terminal Node Controller) which reformats them in HDLC and does the actual transmission. "KISS TNC" code by Mike Chepponis, K3MC (chepponis@xx.lcs.mit.edu) for the TAPR TNC-2 is included in the distribution.

There is as yet no support for domain names; hosts are specified by their IP addresses. Internally, the package is structured as a simple commutator loop with extensive use of upcalls between adjacent layers. Additional applications are fairly easy to add if they are structured as event-driven state machines.

DOCUMENTATION:

Several text files (user's guide, programming reference, etc) are included in the distribution.

CPU:

IBM PC, PC/XT, PC/AT and compatibles, with either a 3-Com 3C-500 (for Ethernet) or the standard 8250 IBM serial I/O ports (for SLIP and KISS/AX.25). The code has been successfully ported to other processors, including big-endian machines such as the 68000.

O/S:

MS-DOS

IMPLEMENTATION-LANGUAGE:

Almost all C; minimal 8088 assembler

DISTRIBUTOR:

Complete sources, objects and documentation is available.

ARPA: by anonymous ftp from louie.udel.edu (10.0.0.96) as /pub/net.tar.Z. This is a compressed UNIX tar archive.

non-ARPA: on two 5.25" DSDD MS-DOS floppies by sending $5 for costs to:

Brian Lloyd, WB6RQN
19200 Tilford Way
Germantown, MD 20874

CONTACT:

Phil Karn, KA9Q
Internet: karn@louie.udel.edu
US Snail: 25-B Hillcrest Rd
Warren, NJ 07060

PROPRIETY-STATUS:

While I have copyrighted this code, I grant blanket permission for free NONCOMMERCIAL, NONGOVERNMENTAL copying and use. Amateur radio and educational use is particularly encouraged.

INFORMATION-UPDATED:

February 1987

2.17.3. v CMC IBM-PC (NETBIOS)

PRODUCT-OR-PACKAGE-NAME: PC NETBIOS

DESCRIPTION:

As an emulation of the standard IBM NETBIOS firmware, the CMC PC NETBIOS product provides transparent session handling between applications software and lower level protocols. When implemented on an OEM's lower level protocol software, the CMC PC NETBIOS product provides access to the wealth of application programs written to interact with IBM NETBIOS standard. Typical applications programs are able to establish sessions with remote computers and transfer data reliably on those sessions. Additionally, they can send, receive, and broadcast datagrams, as well as refer to remote computers by logical names instead of physical network addresses. Most importantly, applications will use these features just as if they were using standard IBM NETBIOS compatible hardware.

The session layer protocol performs name translation and session management functions. It converts user-defined names into network addresses for the transport and network protocols, and it coordinates transport connections so they appear to the user exactly as PC Network sessions. The CMC PC NETBIOS emulation software works with the CMC ISO Transport Class 4 (TP4) and Connectionless Internetwork (CLNS) products.

OEM customers may use the CMC PC NETBIOS emulation software on top of their existing transport and network protocols, such as X.25, TCP/IP, or proprietary services.

Included with CMC PC NETBIOS emulation software is a background version of CMOS, the C language Micro Operating System. CMOS, running transparently to PC-DOS or MS-DOS, provides multi-tasking, messaging, timers, and memory management to the CMC PC NETBIOS emulation software. In applications where CMC PC NETBIOS will reside with lower level protocols on an intelligent network processor, CMOS functions may be replaced by those of the native operating environment.

CPU:

IBM-PC/XT/AT

O/S:

MS-DOS, PC-DOS

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Communication Machinery Corporation
1421 State Street
Santa Barbara, CA 93101
(805) 963-9471

CONTACT:

Contact above

INFORMATION-UPDATED:

February 1987

2.17.4. CMU IBM-PC

PRODUCT-OR-PACKAGE-NAME: CMU PC/IP

DESCRIPTION:

CMU PC/IP is a version of MIT PC/IP (see MIT IBM-PC) that can be compiled using standard MS-DOS compilers available from the Microsoft Corporation. The original PC/IP code was developed using a cross-compiler on a VAX running UNIX. Using a PC native compiler makes development easier.

DOCUMENTATION:

User and programmer manuals available with source via FTP

CPU:

IBM-PC family and other hardware-compatibles, such as Compaq

O/S:

DOS 2.0, 2.1, 3.0, or 3.1

IMPLEMENTATION-LANGUAGE:

C: Microsoft Corp. C Compiler Version 3.00 or higher

Assembler: Microsoft Corp. Macro Assembler Version 3.00 or higher

DISTRIBUTOR:

Available via anonymous FTP, see ORDERING-PROCEDURE

CONTACT:

Drew D. Perkins, (Drew.Perkins@andrew.cmu.edu)
Carnegie Mellon University
4910 Forbes Avenue
Pittsburgh, PA 15213
(412) 268-6628

ORDERING-PROCEDURE:

To get the CMU Microsoft C version of the PCIP package from the arpanet, connect to host "te.cc.cmu.edu" with FTP (no quotes when you really type it). This machine is a TOPS20 system. Login in as user "anonymous", password "guest". Next, use the "cd" command to change your working directory to "pk:<pcip>". Now if you do a "dir" command you will get a listing of all the necessary files. First, "get" the files "readme" and "install.bat" in netascii mode. The rest of the files must be retrieved in binary/octet mode. On a UNIX system use the command "tenex" to tell TOPS20 to use a local byte size of 8 bits. Now retrieve the files "tarread.exe", "root.tar", "include.tar", "srcdev.tar", "srclib.tar" and "srccmd.tar". The file "doc.tar" is also available if you want the scribe documentation.

Alternatively, you can now retrieve the files via anonymous FTP from host "lancaster.andrew.cmu.edu". This host is not yet in the NIC tables, but should be resolvable via the domain name system. It's IP address is "128.2.13.21". This machine is a 4.2 bsd UNIX system. After you log in, use the "cd" command to change your working directory to "pub". You will have to retrieve the same set of files as above.

Once you have these on your local machine, use TFTP or some other file transfer program to get them to your PC. Put the files under a subdirectory such as c:\pcip. Make sure you do the transfers in the proper mode (octet or ascii, as above). The file "readme" explains what you have, and how to proceed farther. We would appreciate it if you would avoid transfers during prime-time hours.

PROPRIETY-STATUS:

Copyright by MIT and CMU with blanket permission to copy, modify, and redistribute, so long as credit is given.

INFORMATION-UPDATED:

March 1987

2.17.5. Excelan IBM-PC (DOS)

PRODUCT-OR-PACKAGE-NAME: EXOS 8051 TCP/IP Network Software for DOS Systems

DESCRIPTION:

Excelan's EXOS 8051 implements DoD TCP/IP protocols, to connect IBM-PC/XT/AT/compatible computers running DOS to Ethernet networks. EXOS 8051 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 205 Intelligent Ethernet Controller for PCbus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) run on the controller and the user applications (FTP, Telnet, VT100 emulation) run on the PC. EXOS 8051 user applications also include an optional C program socket library and network administration utilities.

DOCUMENTATION:

EXOS 8051 TCP/IP Network Software for PC-DOS Systems Reference Manual

CPU:

IBM-PC/XT/AT/compatibles in conjunction with an EXOS 205 Intelligent Ethernet Controller for PCbus

O/S:

DOS (v2.x - v3.x)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.17.6. Excelan IBM-PC (XENIX)

PRODUCT-OR-PACKAGE-NAME: EXOS 8011 TCP/IP Network Software for XENIX-based IBM-PC ATs

DESCRIPTION:

Excelan's EXOS 8011 implements DoD TCP/IP protocols to connect XENIX-based IBM-PC ATs to Ethernet networks. EXOS 8011 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 205 Intelligent Ethernet Controller for PCbus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the EXOS 205 controller and the user applications (FTP, Telnet, ud, and R-utilities) run on the XENIX PC AT. EXOS 8011 applications also include C program socket library and network administration utilities.

DOCUMENTATION:

EXOS 8011 TCP/IP Network Software for IBM PC ATs running XENIX Reference Manual

CPU:

IBM-PC AT in conjunction with an EXOS 205 Intelligent Ethernet Controller for PCbus

O/S:

IBM XENIX 2.0 or SCO XENIX V (v2.1.3, v2.2)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.17.7. Excelan IBM-PC (NETBIOS)

PRODUCT-OR-PACKAGE-NAME: EXOS 8052 NETBIOS-TCP/IP Software for DOS Systems

DESCRIPTION:

Excelan's EXOS 8052 implements a standard IBM NETBIOS session layer interface and DoD TCP/IP protocols for DOS computers. EXOS 8052 executes in conjunction with an EXOS 205 Intelligent Ethernet Controller for PCbus. This DOS solution allows the running, without modification, of all PC network applications designed for IBM's NETBIOS interface. EXOS 8052 is a front-end TCP/IP implementation in that the TCP/IP protocols run on the controller and the NETBIOS layer runs on the PC.

DOCUMENTATION:

EXOS 8052 NETBIOS-TCP/IP Network Software for PC-DOS Systems

CPU:

IBM-PC/XT/AT/compatible in conjunction with EXOS 205 Intelligent Ethernet Controller for PCbus

O/S:

DOS 3.1 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.17.8. Excelan IBM-PC (LANalyzer - Ethernet Network Analyzer)

PRODUCT-OR-PACKAGE-NAME: LANalyzer EX 5000E Ethernet Network Analyzer

DESCRIPTION:

Excelan's LANalyzer EX 5000E Ethernet Network Analyzer transforms an IBM PC/XT/AT/compatible running DOS into a powerful tool for monitoring, debugging, and characterizing local area networks. It is designed for use on networks based on Ethernet/IEEE 802.3 standards.

The LANalyzer EX 5000E consists of three logical components: the EXOS 225 Ethernet Network Analyzer board, the LANalyzer software, and the associated hardware to connect the PC to the network. These components install on an IBM-PC/XT/AT/compatible running DOS 2.0 or higher. The LANalyzer components are available both as a kit and pre-installed in a COMPAQ PORTABLE 286 computer.

The PC provides a screen-oriented interface for creating tests and for displaying results. Tests can be created to capture packets from the the network or to transmit packets to the network under a variety of criteria. Test results are displayed in real-time or can be saved in DOS files. Although the generic design of the LANalyzer EX 5000E allows it to monitor network traffic on any Ethernet/IEEE 802.3 network, collected Ethernet packets can be later parsed into associated higher layer protocols such as TCP/IP, ISO, XNS and DECnet.

Additionally, a StarLAN adapter board is available for monitoring of StarLAN networks, and EXOS TCP-IP Network Software for DOS can also be run on any PC LANalyzer.

DOCUMENTATION:

LANalyzer EX 5000E Ethernet Network Analyzer User Manual

CPU:

IBM-PC/XT/AT/compatible

O/S:

DOS 2.0 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.17.9. Fibronics IBM-PC

PRODUCT-OR-PACKAGE-NAME: KNET TCP/PC

DESCRIPTION:

This product enables the IBM Personal Computer to participate as host on Ethernet or any network using TCP/IP protocols. Supports TFTP and Telnet. Requires 128K bytes of memory, one disk drive, mono or color monitor with 80 column display and 3COM Etherlink Control Board. Compatible with other systems supporting TCP/IP.

DOCUMENTATION:

Available from vendor

CPU:

IBM-PC, PC/XT

O/S:

DOS 2.0, 2.1, 3.0

IMPLEMENTATION-LANGUAGE:

C, 8086 Assembler

DISTRIBUTOR:

Fibronics International Inc.
325 Stevens Street
Hyannis, MA 02601

CONTACT:

Inside sales, (617) 778-0700 or (800) 368-2537

PROPRIETY-STATUS:

Source code not available for purchase

INFORMATION-UPDATED:

April 1986

2.17.10. Frontier IBM-PC

PRODUCT-OR-PACKAGE-NAME: PC-DDN

DESCRIPTION:

Frontier Technologies Corporation has introduced a hardware and software package that allows IBM-PC's, XT's and AT's (and compatibles) to communicate over DDN. The hardware consists of an intelligent communications controller (AdCom2-I) with 1/2 Megabyte of local RAM and MIL-188-144, Mil-188C interfaces. The X.25 resides in the 64 K PROM on board and is executed by the local CPU (80188). The TCP/IP is loaded in the local RAM from the PC. The resident real time operating system (VRTX) allows the highest performance execution of X.25 and TCP/IP. The ADCom2-I also runs 3270 SNA/SDLC, 3270 Bisync, and Async terminal emulations. Implementation of FTP/TELNET/SMTP is in progress.

DOCUMENTATION:

Available

CPU:

IBM-PC, XT, AT (and compatibles)

O/S:

MS-DOS and Xenix

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Frontier Technologies Corporation
3510 N. Oakland Avenue
Milwaukee, Wisconsin 53211
(414) 964-8689

CONTACT:

Dr. Prakash Ambegaonkar, (414) 964-8689

ORDERING-PROCEDURE:

Contact Frontier Technologies

PROPRIETY-STATUS:

Frontier Technologies

INFORMATION-UPDATED:

January 1986

2.17.11. FTP IBM-PC

PRODUCT-OR-PACKAGE-NAME: PC/TCP

DESCRIPTION:

PC/TCP is a TCP/IP implementation for the IBM PC based on the MIT PC/IP code. It includes FTP, Telnet, client and server SMTP and TFTP, finger, whois, the 4BSD UNIX protocols (rlogin, rexec, rsh, rcp, lpr) and a number of other miscellaneous protocols. It supports IEN 116 host name resolution, the domain name protocol, and local 4BSD format host tables. Drivers are currently available for the 3COM 3C500/3C501 (EtherLink) and 3C505 (EtherLinkPlus), Interlan NI5010, and BICC ISOLAN 4117 Ethernet interfaces, the Proteon p1300 ProNET-10 ring interface, and SLIP (Serial Line IP).

DOCUMENTATION:

Binaries come with installation notes and a User's manual. Programming libraries and source come with a Programmer's manual.

CPU:

IBM PC, IBM-PC/XT, IBM-PC/AT, AT&T 6300, Compaq, TI BusinessPro and other compatibles

O/S:

MS-DOS and PC-DOS versions 2.x and 3.x

IMPLEMENTATION-LANGUAGE:

Microsoft C

DISTRIBUTOR:

FTP Software, Inc.
PO Box 150
Kendall Square Branch
Boston, MA 02142
(617) 864-1711

CONTACT:

James VanBokkelen, Director of Marketing, (617) 864-1711

ORDERING-PROCEDURE:

Contact FTP Software for a current price list; quantity discounts and site licenses are available.

PROPRIETY-STATUS:

Source licenses and vendor agreements are available.

INFORMATION-UPDATED:

October 1986

2.17.12. FUSION IBM-PC

PRODUCT-OR-PACKAGE-NAME: FUSION Network Software

DESCRIPTION:

Network software for Ethernet and ProNET. Runs TCP/IP and/or XNS protocols. Provides file transfer (FTP/send,recv), virtual terminal (Telnet), network management. Interoperates with UNIX 4.2 BSD, socket calls.

DOCUMENTATION:

User manuals for MS-DOS, Network Administrators Manual, Programmers Reference Manual

CPU:

8088 (IBM-PC and compatibles), 8086, 80186, 80286

O/S:

MS-DOS, PC/IX, Venix, Xenix 3, Xenix 5

IMPLEMENTATION-LANGUAGE:

C, runs with Lattice of Microsoft

DISTRIBUTOR:

Network Research Corporation
4010 Moorpark
San Jose, CA 95117

Direct Sales:	
San Francisco:	(408) 248-2121
Los Angeles:	(805) 485-2700
Chicago:	(312) 920-9777
Boston:	(617) 787-7846
Washington D.C.:	(703) 648-1570

CONTACT:

K.W. Sanofsky, San Francisco Branch Sales Manager

ORDERING-PROCEDURE:

See above

PROPRIETY-STATUS:

Developed by Network Research Corporation

INFORMATION-UPDATED:

August 1986

2.17.13. IBM-PC RT

PRODUCT-OR-PACKAGE-NAME: IBM RT/PC Advanced Executive (AIX)

DESCRIPTION:

Operating system for the IBM RT/PC supporting TCP/IP

DOCUMENTATION:

IBM Program Announcement 286-259 6/16/86

CPU:

IBM RT/PC

O/S:

AIX

DISTRIBUTOR:

1. IBM Marketing
2. IBM Authorized VAR's
3. Authorized Personal Computer Dealers

CONTACT:

IBM Marketing Rep

ORDERING-PROCEDURE:

Contact one of the above

PROPRIETY-STATUS:

AIX is an IBM Proprietary product

INFORMATION-UPDATED:

December 1986

2.17.14. MIT IBM-PC

PRODUCT-OR-PACKAGE-NAME: PC/IP

DESCRIPTION:

A set of PC-DOS commands that allow the IBM-PC to be a client of several TCP/IP-based network services, and to be used for network monitoring and maintenance. The TCP, UDP, and IP layers are designed with specific tailoring to the requirements of their known customers, user Telnet and user/server tftp. Drivers have been implemented for the 3COM Etherlink card, the Interlan Ethernet card, and the Proteon ProNET card. This package is the outgrowth of an MIT research project exploring networking of small personal computers.

DOCUMENTATION:

User's manual with object; Programmer's guide with source

CPU:

IBM-PC family and other hardware-compatibles, such as Compaq

O/S:

DOS 2.0, 2.1, 3.0, or 3.1

IMPLEMENTATION-LANGUAGE:

C: Portable C cross-compiler operating under VAX UNIX, and A86 (Cross-assembler operating under VAX UNIX)

DISTRIBUTOR:

M.I.T. Microcomputer Center
Room 11-209
77 Massachusetts Ave
Cambridge, MA 02139
(617) 253-6325

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008
(617) 898-2800

CONTACT:

For research purposes only:
Prof. Jerome H. Saltzer, (Saltzer@Athena.MIT.EDU)
MIT/Laboratory for Computer Science
545 Technology Square
Cambridge, MA 02139
(617) 253-6016

ORDERING-PROCEDURE:

Contact distributors

PROPRIETY-STATUS:

Copyright by MIT with blanket permission to copy, modify, and redistribute, so long as credit is given

INFORMATION-UPDATED:

January 1986

2.17.15. Proteon IBM-PC

PRODUCT-OR-PACKAGE-NAME: MS-DOS TCP/IP for ProNET-4 and ProNET-10

DESCRIPTION:

These packages allow IBM PC's or compatibles with a ProNET-4 or ProNET-10 interface to use the TCP/IP protocols. The package includes FTP, Telnet, TFTP, SMTP, and the Berkeley r-series commands (rlogin, rcp, rsh, rexec, lpr).

The p5233 supports the p1340 ProNET-4 IBM PC interface or the p1344 ProNET-4 IBM AT interface. The p5231 supports the p1300 ProNET-10 IBM PC interface. The p5232 provides programming libraries for the ProNET-4 and ProNET-10 versions.

DOCUMENTATION:

Includes full software installation and user's manual

CPU:

IBM-PC, IBM AT, and true compatibles

O/S:

MS-DOS and PC-DOS versions 2.x and 3.x

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

PROPRIETY-STATUS:

Proprietary code; source available from vendor

INFORMATION-UPDATED:

February 1987

2.17.16. SCO XENIX-NET

PRODUCT-OR-PACKAGE-NAME: SCO XENIX-NET

DESCRIPTION: SCO XENIX-NET is a local area network for computers running XENIX that allows easy integration of multiple XENIX Systems, or mixed PC-DOS, MS-DOS and XENIX systems. As a "resourse sharing" system, it lets a group of computers share peripherals, such as printers and mass storage devices, permitting users to share information files stored on hard disk based computers working as file servers.

DOCUMENTATION:

Release Notes, User Guides, Administration Guide, Installation Guide

CPU:

IBM PC AT and compatibles

O/S:

XENIX

DISTRIBUTOR:

The Santa Cruz Operation, Inc.
400 Encinal Street
PO Box 1900
Santa Cruz, CA 95061
(408) 425-7222

CONTACT:

Telemarketing Department

ORDERING-PROCEDURE:

(408) 425-7222, (800) 626-UNIX

PROPRIETY-STATUS:

Proprietary version of MS-Networks for XENIX

INFORMATION-UPDATED:

August 1987

2.17.17. Stanford IBM PC

PRODUCT-OR-PACKAGE-NAME: SU-PC/IP

DESCRIPTION:

Stanford University's implementation of the TCP/IP suite of protocols for the IBM PC family, SU-PC/IP, is based on the MIT PC/IP code. The package includes: FTP, TELNET, FINGER, WHOIS, PING, POP2 and SMTP clients; RARP and BOOTP clients. Both IEN 116 and domain name resolvers are supported. PCMH, the mail program, provides a RAND Mail Handler type of user interface and allows users to use the editor of their choice for composing mail. Currently, driver is available only for 3Com 3C500/3C501 EtherLink cards, but support for some other Ethernet interfaces is planned.

DOCUMENTATION:

A manual is provided for users and administrators.

CPU:

IBM-PC

O/S:

DOS

IMPLEMENTATION-LANGUAGE:

MIT-Terman cross compiler

DISTRIBUTOR:

ACIS/Networking Systems
115 Pine Hall
Stanford, CA 94305

CONTACT:

Carol Buckley, (415) 723-3603

ORDERING-PROCEDURE:

Contact Carol Buckley for information and license agreement, available to degree-granting Educational Institutions and qualifying non-profit organizations only. Others may be licensed from commercial suppliers.

PROPRIETY-STATUS:

Copyright (c) 1987 by the Board of Trustees of the Leland Stanford Junior University and licensed to organizational users only.

INFORMATION-UPDATED:

June 1987

2.17.18. Ungermann-Bass IBM-PC (NETBIOS)

PRODUCT-OR-PACKAGE-NAME: TCP-PC

DESCRIPTION:

TCP-PC is a combined software and hardware product for a personal computer. TCP-PC integrates both PC Networking and PC to host access into the autonomous personal computer environment. The Ungermann-Bass Personal NIU (tm), an intelligent communications controller, fits in a slot of any IBM compatible PC workstation. The NIU is used for protocol processing without requiring use of workstation resources. UNIX style user applications deliver File Transfer and remote login or Telnet capabilities. These facilities become a part of the extended MS-DOS or PC network environment. This is possible due to the NETBIOS interface that is an integral part of TCP-PC. Through NETBIOS a variety of network operating systems and applications can be supported. Finally a powerful Name Service extends the reach of PC Networking across subnetworks and even to multiple networks. Two optional components, a Name Service and C-Toolkit programmers library further enhance the ability of TCP-PC to enable the PC workstation to participate as an equal in the host-to-host TCP/IP environment.

DOCUMENTATION:

Four documents are available with the product set:

- Net/One TCP-PC Users Guide is appropriate for every PC user.
- Net/One TCP-PC Programmers Reference Manual is useful for technical staff writing to either the C-toolkit procedure library or the NETBIOS/assembler language style interface.
- Net/One TCP-PC Administrator's Guide and TCP Name Service Guide are intended for a site network administrator and sophisticated users who require detailed knowledge of installation and operation of the TCP-PC base and Name Service products.

CPU:

IBM-PC/XT/AT

O/S:

MS-DOS

IMPLEMENTATION-LANGUAGE:

Assembler and C

DISTRIBUTOR:

Ungermann-Bass, Inc.
3900 Freedom Circle
Santa Clara, CA 95052
(408) 496-0111

CONTACT:

West Coast: Bart Burstein, (Bart%ub.com@relay.cs.net), (408) 496-0111
East and Midwest: Steve Pulvers, (201) 225-5225
Or any local Ungermann-Bass sales office

ORDERING-PROCEDURE:

Contact above for information

PROPRIETY-STATUS:

Hardware and software are proprietary to Ungermann-Bass, Inc. TCP-PC is a trademark of Ungermann-Bass, Inc.

INFORMATION-UPDATED:

December 1986

2.17.19. Ungermann-Bass IBM-PC (Name Service)

PRODUCT-OR-PACKAGE-NAME: Net/One TCP Name Service

DESCRIPTION:

The TCP-PC Name Service is an optional component of the TCP-PC base product described earlier in this guide. The TCP-PC Name Service serves as an assistant in locating remote resources for both PC Networking and PC to host access from Net/One TCP products. For PC networks the Net/One TCP Name Service extends the reach of PC Networking across subnetworks and to multiple networks. An additional benefit of the Name Service is the reduction of broadcast traffic in large PC network configurations. As an assistant in PC to host access centralized administration of the information maintained in UNIX /etc/host files.

DOCUMENTATION:

A Net/One TCP Name Service Guide is included with the product. It is intended for a site network administrator and sophisticated users who require detailed knowledge of installation and operation of the Name Service product.

CPU:

IBM-PC/XT/AT

O/S:

MS-DOS

IMPLEMENTATION-LANGUAGE:

Assembler and C

DISTRIBUTOR:

Ungermann-Bass, Inc.
3900 Freedom Circle
Santa Clara, CA 95052
(408) 496-0111

CONTACT:

Any Ungermann-Bass sales office. For nearest office you may contact:

Bart Burstein, (Bart%ub.com@relay.cs.net), (408) 496-0111

ORDERING-PROCEDURE:

An Ungermann-Bass Marketing Representative will be assigned to meet your ordering requirements.

PROPRIETY-STATUS:

Hardware and software are proprietary to Ungermann-Bass, Inc. TCP-PC is a trademark of Ungermann-Bass, Inc. UNIX is a registered trademark of AT&T.

INFORMATION-UPDATED:

January 1987

2.17.20. Ungermann-Bass IBM-PC (C Toolkit)

PRODUCT-OR-PACKAGE-NAME: TCP-PC C-Toolkit

DESCRIPTION:

The TCP-PC C-Toolkit is an optional component of the TCP-PC base product described earlier in this guide. The C-Toolkit provides "UNIX like" network programmatic access under MS-DOS by implementing all necessary 4.2 BSD procedure calls in compiler specific library modules. Programs can be ported from a Berkeley UNIX environment to MS-DOS with minimal effort. Four types of access are supported. The most common use is the TCP connection oriented interface. A transaction interface is also available at three levels: UDP, IP or raw data link packet formats. Additional advanced features in areas such as receive packet masks are useful in developing advanced applications using the PC as a platform. Separate libraries are available to support popular compilers, and different memory models for each compiler.

The base product is a combined software and hardware product for a personal computer. In addition to software it includes an Ungermann-Bass Personal NIU (tm), an intelligent communications controller, fits in a slot of any IBM compatible PC workstation. The NIU is used for protocol processing without requiring use of workstation resources.

DOCUMENTATION:

The Net/One TCP-PC Programmers Reference Manual is intended for programmers writing to the C-Toolkit interface. In addition it contains information on the NETBIOS/assembler language style interface and other useful information on TCP/IP and the use of the Ungermann-Bass implementation.

CPU:

IBM-PC/XT/AT

O/S:

MS-DOS

IMPLEMENTATION-LANGUAGE:

Assembler and C

DISTRIBUTOR:

Ungermann-Bass, Inc.
3900 Freedom Circle
Santa Clara, CA 95052
(408) 496-0111

CONTACT:

Any Ungermann-Bass sales office. For nearest office you may contact:

Bart Burstein, (Bart%ub.com@relay.cs.net), (408) 496-0111

ORDERING-PROCEDURE:

An Ungermann-Bass Marketing Representative will be assigned to meet your ordering requirements.

PROPRIETY-STATUS:

Hardware and software are proprietary to Ungermann-Bass, Inc. TCP-PC is a trademark of Ungermann-Bass, Inc. UNIX is a registered trademark of AT&T.

INFORMATION-UPDATED:

January 1987

2.17.21. Ungermann-Bass IBM-PC (XENIX)

PRODUCT-OR-PACKAGE-NAME: TCP-PC/XENIX

DESCRIPTION:

TCP-PC/XENIX is a combined software and hardware product for personal computers using the XENIX operating system. It is designed to work in cooperation with XENIX-NET (R) - which is available from the Santa Cruz Operation. SCO XENIX-NET, SCO'S packaged version of Microsoft(R) Networks for XENIX Systems, provides a transparent distributed file system for multiple XENIX and DOS machines on a local-area network. TCP-PC/XENIX and XENIX-NET provide a seamless server and workstation network for MS-DOS based computers. The combination of TCP-PC and SCO XENIX- NET makes available an integrated file system between MS-DOS (R) and XENIX environments. In addition, the extended features of TCP-PC provide internetwork access to users of both operating systems. XENIX-NET version 1.2 supports an interface to the Ungermann-Bass Net/One PC network operating system as well as other products supporting the MS-NET redirector. In addition a NETBIOS interface allows porting of MS-DOS applications directly to the XENIX environment. This will allow communication among a wide variety of applications that can be hosted on XENIX-based systems and MS-DOS based computers when both are equipped with Ungermann-Bass Network Interface Units. An additional feature of TCP-PC/XENIX is that XENIX based stations can take advantage of the powerful Name Service capabilities of Net/One TCP that extends the reach of PC Networking across subnetworks and to multiple networks.

DOCUMENTATION:

XENIX-NET is supplied with a user manual. TCP-PC/XENIX will include a hardware installation manual and software installation instructions.

CPU:

IBM-PC/XT/AT

O/S:

XENIX

IMPLEMENTATION-LANGUAGE:

Assembler and C

DISTRIBUTOR:

Ungermann-Bass, Inc.
3900 Freedom Circle
Santa Clara, CA 95052
(408) 496-0111

The Santa Cruz Operation
PO Box 1900
Santa Cruz, CA 95061
(408) 425-7222

CONTACT:

Any Ungermann-Bass sales office. For nearest office you may contact:

Bart Burstein, (Bart%ub.com@relay.cs.net), (408) 496-0111

The Santa Cruz Operation, John Harker, (408) 425-7222

ORDERING-PROCEDURE:

Contact above for information

PROPRIETY-STATUS:

Hardware and software are proprietary to Ungermann-Bass, Inc. TCP-PC is a trademark of Ungermann-Bass, Inc. XENIX-NET is a product of the Santa-Cruz Operation. Microsoft, MS and XENIX are registered trademarks of Microsoft Corporation. UNIX is a registered trademark of AT&T.

INFORMATION-UPDATED:

January 1987

2.17.22. Wollongong IBM-PC

PRODUCT-OR-PACKAGE-NAME: WIN/PC

DESCRIPTION:

This TCP/IP implementation includes Telnet (remote login), FTP (file transfer), TFTP (trivial file transfer), Network Statistics Utilities. Supports the 3COM Ethernet Controller.

DOCUMENTATION:

Installation Guide and Users Manual

CPU:

IBM-PC, XT, AT, and IBM compatibles

O/S:

PC-DOS (MS-DOS) 2.0 and greater

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Wollongong Group
1129 San Antonio Road
Palo Alto, CA 94303

CONTACT:

Dave Preston, Wollongong Sales, (415) 962-7200

ORDERING-PROCEDURE:

Available with support from The Wollongong Group

PROPRIETY-STATUS:

Wollongong

INFORMATION-UPDATED:

August 1986

2.17.23. ACC MVS

PRODUCT-OR-PACKAGE-NAME: ACCES/MVS

DESCRIPTION:

The ACCES/MVS software program is a full-service communication sub-system for the DoD Internet protocols, which execute on an IBM type mainframe under the MVS operating system. ACCES/MVS includes all Internet-specific protocol code which when combined with ACC's ACS 9305 or ACS 9310 provides a full-service host interface to the DDN or to a Ethernet local area network. Services supported include client and server SMTP, client and server FTP, client and server Telnet, TCP and IP, ICMP and UDP. ACCES/MVS can be installed under either MVS/SP or MVS/XA with no operating system modification. Interprocess communication is accomplished with ACF/VTAM.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

CPU:

IBM-370, 43xx, 30xx, and any IBM compatible machine

O/S:

MVS/SP or MVS/XA with ACF/VTAM

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical Marketing: Jim Thrower, IBM Product Manager, (805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

2.17.24. CISCO MVS

PRODUCT-OR-PACKAGE-NAME: HFS

DESCRIPTION:

Communications Interface Solutions Company (CISCO) builds and supports products that extend the Defense Data Network (DDN). The CISCO TAC3270, FEP3270 and HFS interconnect IBM 3270 or compatible SNA/SDLC or BSC terminal controllers and devices to IBM or PCM MVS-VTAM computer systems on the DDN providing native mode terminal operation (3270 Data Stream) with the host and the full set of DDN protocols. CISCO also provides products that connect IEEE 802.3 Local Area Networks with IBM MVS systems and the DDN. These products are TCP/IP based and are interrelated.

Host Full Service (HFS) software runs on an IBM computer that utilizes the IBM MVS operating system and the ACF/VTAM communications access method. It provides the TCP/IP (thru SAPI), Telnet NVT, FTP and SMTP protocols needed for the host computer to deliver a 'Full-Service' DDN offering. HFS also provides support services for the TAC3270 and FEP3270 in the form of the software downline loading, statistics gathering capability, and remote maintenance commands.

HFS Product Summary:

The DDN upper layer protocols adhere to a User-Server structure where (in each of the three upper layer protocols, Telnet NVT, FTP and SMTP) the User process, usually in one computer, initiates a dialog (following the upper layer protocol) with a Server process, usually in another computer. By following the conventions defined in each upper layer protocol these User-Server process pairs accomplish their data communications tasks. Telnet Network Virtual Terminal's (NVT) goal is to allow a terminal user in one system to have terminal to host dialog with another system regardless of the real terminal attributes. File Transfer Protocol's (FTP) goal is allow files to be transferred between two computer systems. Simple Mail Transfer Protocol's (SMTP) goal is to transfer mail to and from user mailboxes (on files) on cooperating systems.

Within IBM's MVS operating system, under TSO (Time-Sharing Options), CISCO's Host Full Service (HFS) software provides Telnet NVT User, FTP User and SMTP User processes as TSO commands so that interactive users on one MVS computer system can utilize directly these DDN Full Service capabilities in communication with other DDN Full Service host computers. Within the HFS subsystem, CISCO's HFS software provides the Telnet NVT Server, FTP Server and SMTP Server processes so that users on other DDN Full Service computer systems can communicate with this MVS host using these higher level communications services. Within the CISCO TAC3270, CISCO provides a Telnet NVT User process so that the terminals attached to the TAC3270 can utilize this higher level protocol to communicate with DDN Full Service hosts of all kinds.

HFS uses the Service Access Protocol (SAP) via two dedicated VTAM 3270 SNA sessions between the FEP3270 and HFS for data paths in support of these server facilities in the host (one for inbound CISCO DDN traffic and one for outbound CISCO DDN traffic).

This basic structure allows the TCP/IP control to be resident in the FEP3270 and yet the session startup/shutdown and data I/O to be available in the host. Once in the host at that level then the higher level protocols are implemented in the host; Telnet NVT, FTP, SMTP.

HFS also contains DDN data communication support for MVS application programs through dialog with the HFS subsystem as a sequential file (VSAM ESDS, BSAM or QSAM). This I/O capability is accomplished through the use of the MVS SubSystem Interface (SSI). The HFS subsystem using the SSI in concert with its JCL exit and I/O reaction capabilities builds and responds to the key control block parameters. The session establishment parameters are placed on the Job Control Language (JCL) statements using the SUBSYS= capabilities.

This combination allows these file access methods (VSAM ESDS, BSAM and QSAM) to accomplish their open, close, read, write (e.g. GET, PUT, CHECK) functions without any modifications to the file access methods themselves while the HFS subsystem allows that I/O to actually be transmitted as DDN TCP/IP sessions across the DDN. Thus, the HFS subsystem and the user interface is built on 'IBM-supported' interfaces without modifications to MVS and the application programming interface uses standard file access methods.

DOCUMENTATION:

HFS Installation and Update Guide
HFS Operation and Subsystem Support Reference Manual
HFS DDN ULP User's Guide
HFS MVS TCP/IP Programmer's Reference Manual

CPU:

HFS runs on IBM MVS Operating System based equipment including all the 3000 series and 4000 series and their plug compatible counterparts

O/S:

MVS

IMPLEMENTATION-LANGUAGE:

Predominantly C, some assembly

DISTRIBUTOR:

CISCO
9067 Shady Grove Ct.
Gaithersburg, MD 20877
(301) 921-8800

CONTACT:

Jon D. Weston, (301) 921-8800

ORDERING-PROCEDURE:

Call for details

PROPRIETY-STATUS:

All Products CISCO Proprietary

INFORMATION-UPDATED:

June 1986

2.17.25. Fibronics MVS

PRODUCT OR PACKAGE NAME: KNET TCP/MVS

DESCRIPTION:

KNET TCP/MVS is a TCP/IP-based network software package supporting the Ethernet local area network and all SNA supported links. KNET conforms to the ISO/OSI Reference Model for layered network architecture and runs as a started task under the control of MVS. (See also, "Fibronics K200" described in the Hardware Section of this document).

Services supported include client and server TELNET, client and server FTP, and client and server TFTP. An application interface to TCP virtual circuits and UDP datagram circuits is also available. In addition, the following small servers are available for UDP: time, discard, echo, name, and quote of the day. Support for TCP echo and discard services is also provided. Telnet access to all MVS services is provided via 3270 emulation. Telnet access support for "TN3270 mode" is also provided. Support is provided under FTP for both binary mode and for NETASCII. Automatic data conversion to/from ASCII to EBCDIC is supported. No modification of MVS is required.

DOCUMENTATION:

Available from vendor

CPU:

IBM 370 class or equivalent

O/S:

MVS/SP Release 1.3 or later, operating system with VTAM

IMPLEMENTATION-LANGUAGE:

Assembler and C

DISTRIBUTOR:

Fibronics International, Inc.
325 Stevens Street
Hyannis, MA 02601

CONTACT:

Hal Spurney, Marketing and Sales Manager, (617) 778-0700 or 800-LAN-KNET

PROPRIETY-STATUS:

Source code not available for purchase

INFORMATION-UPDATED:

July 1986

2.17.26. Fibronics 310

PRODUCT OR PACKAGE NAME: K310 T1/Ethernet System

DESCRIPTION:

The K310 Ethernet controller pair provides a high-speed interface between an IBM 370, 30xx or PCM and a remote Ethernet local-area network over T1 or high-speed communication lines. The K310H is a microprocessor driven control unit that attaches to IBM's block multiplexer channel using standard IBM bus and tag cables and to a communication link. The K310E attaches to a high-speed communication link an the Ethernet. The K310 implements the physical and data link layers of the ISO/OSI Reference Model for network architecture and conforms to the specification for Ethernet, Version 1.0.

DOCUMENTATION:

Available from vendor

CPU:

IBM 370, IBM 30xx, or PCM

DISTRIBUTOR:

Fibronics International, Inc.
325 Stevens Street
Hyannis, MA 02601

CONTACT:

Hal Spurney, Marketing and Sales Manager, (617) 778-0700 or 800-LAN-KNET

PROPRIETY-STATUS:

Fibronics product

INFORMATION-UPDATED:

July 1986

2.17.27. Network Solutions OPEN-Link

PRODUCT-OR-PACKAGE-NAME: OPEN-Link for IBM/MVS

DESCRIPTION:

Network Solutions, Inc. provides the DoD Community with OPEN-Link, a fully integrated DDN and Ethernet interface solution that provides the DoD Internet protocols (TCP/IP, FTP, TELNET and SMTP) and technical support services for IBM host computers running the MVS operating system. The interface solution is composed of DDN/MVS host resident software, pre-installation site survey, installation, integration support, maintenance, technical services and a 90 day warranty. OPEN-Link is hardware independent and is currently working with ACC, Comten, IBM Series/1 hardware interfaces. All of these provide the user with a DCA fully qualified X.25 interface. Ethernet support is provided by the Nixdorf Ethernet Control unit.

DOCUMENTATION:

One full set of documentation is provided with the product; additional documentation may be purchased.

CPU:

IBM S/370, 43xx, 303x, 308x, 309x and PCMs

O/S:

MVS/SP version 1 with ACF/VTAM Release 1.3

IMPLEMENTATION-LANGUAGE:

Assembly

DISTRIBUTOR:

Network Solutions
Products Group
8229 Boone Blvd., 7th floor
Vienna, VA 22180
(703) 749-1900

CONTACT:

Technical: Mary Bloch, (703) 749-1900

ORDERING-PROCEDURE:

Submit purchase order to above address; see above contact for pricing.

PROPRIETY-STATUS:

Network Solutions proprietary

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1987

2.17.28. Softsel MVS

PRODUCT-OR-PACKAGE-NAME: SOFTSEL-MVS

DESCRIPTION:

Software implementation of File Transfer Protocol (FTP), Network Virtual Terminal Protocol (TELNET) and Simple Mail Transfer Protocol (SMTP). Runs on top of TCP/IP or NETEX (using a separate TCP Emulator).

DOCUMENTATION:

User documentation and installation instructions are included.

CPU:

IBM 43xx and compatible machines

O/S:

MVS

IMPLEMENTATION-LANGUAGE:

PL/1 and Assembler H

DISTRIBUTOR:

Softsel Incorporated
601 Ewing Street
Princeton, NJ 08540
(601) 683-1150

ORDERING-PROCEDURE:

Contact SCP Product Manager at Softsel Incorporated

PROPRIETY-STATUS:

Proprietary product of Softsel Incorporated (NETEX is a trademark of Network Systems Corporation)

INFORMATION-UPDATED:

December 1985

2.17.29. SSA MVS

PRODUCT-OR-PACKAGE-NAME: SSA DACU MVS

DESCRIPTION:

This package provides a low cost, flexible, full service interface for an IBM MVS host to the DDN. The UCLA ARPANET Control Program must be purchased to provide TELNET (including full screen 3278 support), SMTP and FTP. SSA provides a Local Network Interface (LNI) module which supports an IBM 7170 DACU and ACC IF-11/HDH controller. This configuration provides a DCA qualified connection to the DDN. The package also includes DACU support software which runs automatically at DACU IPL. No custom DACU software installation is required. Mutiple frame blocking between the host and DACU is used to reduce host overhead.

See the UCLA MVS and ACC IF-11/HDH entries in this document for further details.

SSA plans development of X.25 and Ethernet LNIs for the UCLA package.

DOCUMENTATION:

Full documentation is provided with UCLA ARPANET software. Installation and operation instructions are provided for the SSA software package.

CPU:

IBM 370 class processor or equivalent

O/S:

MVS/SP, MVS/XA

IMPLEMENTATION-LANGUAGE:

IBM Assembler

DISTRIBUTOR:

Software Systems Associates
4900 Leesburg Pike, Suite 305
Alexandria, VA 22302
(703) 998-0436

CONTACT:

Barbara Walker, (703) 998-0436

ORDERING-PROCEDURE:

Contact above

PROPRIETY-STATUS:

Proprietary product

INFORMATION-UPDATED:

January 1987

2.17.30. IBM VM

PRODUCT-OR-PACKAGE-NAME: VM Interface Program for TCP/IP

DESCRIPTION:

The IBM VM Interface Program for TCP/IP is a program offering which implements the full set of DoD protocol suite. The package uses a 370 channel attached Series/1 with Event Driven Executive to interface with the DDN (using either 1822 or DDN X.25); uses a Series/1 with Realtime Programming System to interface with GTE-TELENET; and uses a Device Access Control Unit to interface with Ethernet or/and ProNET.

TCP/IP runs in a separate disconnected virtual machine. Similarly, user SMTP, server SMTP, server FTP, and server Telnet each occupies a dedicated virtual machine. User FTP and user Telnet run within a user's virtual machine under CMS. Communication between virtual machines is done through the IBM Virtual Machine Communication Facility (VMCF).

DOCUMENTATION:

Installation Guide (SH20-6520), Maintainer's Guide (SH20-6521), User's Guide (SH20-6518), Device Access Control Unit Network Guide (SH20-6538), and Series/1 Network Guide (SH20-6539) can be ordered as unlicensed documents. System programmer's Guide (LY20-0954) is a Licensed Document.

CPU:

IBM S/370, 303x, 43xx, or 308x machines

O/S:

VM/SP

IMPLEMENTATION-LANGUAGE:

IBM Pascal and assembler

DISTRIBUTOR:

IBM Corporation

CONTACT:

If your site is a university:

Distribution contact:
Sheryl Pomraning
University of Wisconsin
1210 W. Dayton St.
Madison, WI 53706
(608) 262-5776

Technical contacts:

Julie Hagens
Computer Science Department
University of Wisconsin
1210 W. Dayton St.
Madison, WI 53706
(608) 262-7892

If your site is not a university:

Distribution contact: Your local IBM sales representive

Technical Contacts:

Susan Poh or Mary Dart
IBM Corporation
708 Quince Orchard Blvd.
Gaithersburg, MD 20878
(301) 240-5992 or (301) 240-5669

ORDERING-PROCEDURE:

Contact Local IBM Sales Representatives. The Program Offering is 5798-DRG.

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

2.17.31. IBM-VM WISCNET

PRODUCT-OR-PACKAGE-NAME: WISCNET

DESCRIPTION:

The University of Wisconsin has implemented the Internet protocols (FTP/SMTP/Telnet/TCP/IP) for IBM VM systems under contract with IBM.

TCP/IP runs in a separate disconnected virtual machine. Similarly, user SMTP, server SMTP, server FTP, and server Telnet each occupies a dedicated virtual machine. User FTP and user Telnet run within a user's virtual machine under CMS. Communication between virtual machines is done through the IBM Virtual Machine Communication Facility (VMCF). A detailed description of the software is available from the contact listed below.

Drivers have been implemented to enable TCP/IP to use either the Proteon ProNET token ring LAN or an Ethernet. The hardware interface is via an IBM DACU (Device Access Control Unit). The DACU enables connection of UNIBUS devices to an IBM channel. A software driver for an AUSCOM interface is also available.

CPU:

Will run on any 370 architecture using VM

O/S:

VM/SP

IMPLEMENTATION-LANGUAGE:

IBM Pascal and assembler

DISTRIBUTOR:

University of Wisconsin, Madison

CONTACT:

Only if your site is a university or college (others should contact their local IBM representative for information on the IBM TCP/IP product).

Sheryl Pomraning
Computer Science Department
University of Wisconsin
1210 W. Dayton St.
Madison, WI 53706
(608) 262-5776

ORDERING-PROCEDURE:

License information is available from the above contact.

INFORMATION-UPDATED:

January 1986

2.17.32. Fibronics VM

PRODUCT-OR-PACKAGE-NAME: KNET TCP/VM

DESCRIPTION:

KNET TCP/VM is a TCP/IP-based network software package supporting the Ethernet local-area network, Bisync and CTCA links. KNET conforms to the ISO/OSI Reference Model for layered network architecture and runs as an application on the mainframe. (See also "Fibronics K200" described in the Hardware Section of this document).

Services supported include client and server Telnet, client and server FTP, client and server SMTP (interfaced to VM NOTE), and client and server TFTP. An application interface to TCP virtual circuits and UDP datagram circuits is also available. In addition, the following small servers are available for UDP: time, discard, echo, name, and quote of the day. Support for TCP echo and discard services is also provided. Telnet access to all VM services is provided via 3270 emulation. Support is provided under FTP for both binary mode and for NETASCII. Automatic data conversion to/from ASCII to EBCDIC is supported. No modification of VM/SP is required. All services run either under CMS or as a guest operating system under CP. SMTP option is available. KNET/VM also supports XNS protocols.

DOCUMENTATION:

Available from vendor

CPU:

IBM 370 class or equivalent

O/S:

VM/SP Rel 3 or later

IMPLEMENTATION-LANGUAGE:

Assembler and C

DISTRIBUTOR:

Fibronics International, Inc.
325 Stevens Street
Hyannis, MA 02601

CONTACT:

Hal Spurney, Marketing and Sales Manager, (617) 778-0700 or 800-LAN-KNET

PROPRIETY-STATUS:

Source code not available for purchase

INFORMATION-UPDATED:

July 1986

2.17.33. SSA VM - 1822

PRODUCT-OR-PACKAGE-NAME: SSA 7170 VM 1822

DESCRIPTION:

This package provides a low cost, flexible full service interface for an IBM VM host to the DDN. The IBM TCP/IP program product must be purchased to provide TELNET (including full screen 3278 support), SMTP, and FTP. SSA provides an object file replacement which supports an IBM 7170 DACU and ACC IF-11/HDH controller. This configuration provides an DCA qualified connection to the DDN. The package also includes DACU support which runs automatically at DACU IPL. No custom DACU software installation is required. Multiple frame blocking between the host and DACU is used to reduce host overhead. Since the IBM TCP/IP product supports Ethernet access via the 7170 DACU, the SSA configuration can be converted to Ethernet via a DDN gateway simply and inexpensively.

See the IBM VM and ACC IF-11/HDH entries in this document for further details.

DOCUMENTATION:

Full documentation is provided with the IBM TCP/IP program product. Installation and operation instructions are provided for the SSA software package.

CPU:

IBM 370 class processor or equivalent

O/S:

VM/SP

IMPLEMENTATION-LANGUAGE:

IBM PASCAL and assembler

DISTRIBUTOR:

Software Systems Associates
4900 Leesburg Pike, Suite 305
Alexandria, VA 22302
(703) 998-0436

CONTACT:

Barbara Walker, (703) 998-0436

ORDERING-PROCEDURE:

Contact above

PROPRIETY-STATUS:

Proprietary product

INFORMATION-UPDATED:

January 1987

2.17.34. [SSA VM - X.25]

PRODUCT-OR-PACKAGE-NAME: SSA 7170 VM X.25

DESCRIPTION:

This will provide a low cost, flexible, full service interface for an IBM VM host to the DDN. The IBM TCP/IP program product must be purchased to provide TELNET (including full screen 3278 support), SMTP, and FTP. SSA provides an object file replacement which supports an IBM 7170 DACU and ACC ACP6250 controller. This configuration provides an DCA qualified connection to the DDN. The package also includes DACU support which runs automatically at DACU IPL. No custom DACU software installation is required. Multiple frame blocking between the host and DACU is used to reduce host overhead. Since the IBM TCP/IP product supports Ethernet access via the 7170 DACU, the SSA configuration can be converted to Ethernet via a DDN gateway simply and inexpensively.

See the IBM VM and ACC ACP6250 entries in this document for further details.

DOCUMENTATION:

Full documentation is provided with the IBM TCP/IP program product. Installation and operation instructions are provided for the SSA software package.

CPU:

IBM 370 class processor or equivalent

O/S:

VM/SP

IMPLEMENTATION-LANGUAGE:

IBM PASCAL and assembler

DISTRIBUTOR:

Software Systems Associates
4900 Leesburg Pike, Suite 305
Alexandria, VA 22302
(703) 998-0436

CONTACT:

Barbara Walker, (703) 998-0436

ORDERING-PROCEDURE:

Contact above

PROPRIETY-STATUS:

Proprietary product

INFORMATION-UPDATED:

January 1987

2.18. LISP Machine

2.18.1. LMI

PRODUCT-OR-PACKAGE-NAME: LMI TCP/IP

DESCRIPTION:

An Excelan-Exos-101/200 series network front-end processor residing on the Multibus of an LMI-Lambda family multi-processor computer provides TCP and UDP services to the application programs TELNET, FTP, IMAGEN and others. The applications are integrated into the generic device, pathname, filesystem, or network systems of the operating system, wherever applicable for transparent and automatic usage. The UNIX operating system support provided by Excelan for the front-end is also available and runs concurrently on a 68010 processor.

DOCUMENTATION:

Available from vendor

CPU:

LMI Lambda under the ZetaLisp-Plus operating system concurrently with a 68010 under the UNIX operating system

O/S:

ZetaLisp-Plus Release 2.0 or later, UNIX System V

IMPLEMENTATION-LANGUAGE:

Lisp, C

DISTRIBUTOR:

Lisp Machine, Inc.
1000 Massachusetts Avenue
Cambridge, MA 02138

CONTACT:

Local LMI Sales Office or LMI, Inc.,
Sales: Jane Relihan, (617) 682-0500

ORDERING-PROCEDURE:

Contact LMI Marketing

PROPRIETY-STATUS:

Proprietary product of Lisp Machine, Inc.

INFORMATION-UPDATED:

January 1986

2.19. NCR

2.19.1. Excelan NCR Tower Software

PRODUCT-OR-PACKAGE-NAME: EXOS 8012-01 TCP/IP Network Software for NCR Tower Systems

DESCRIPTION:

Excelan's EXOS 8012-01 implements DoD TCP/IP protocols to connect NCR Tower Systems to Ethernet networks. EXOS 8012-01 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 201 Intelligent Ethernet Controller for multibus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet, ud, and R-utilities) run on the NCR Tower. EXOS 8012-01 user applications also include C program socket library and network administration utilities.

DOCUMENTATION:

EXOS 8012-01 TCP/IP Network Software for NCR Tower Systems Reference Manual

CPU:

NCR Tower (Tower 16 and 32)

O/S:

NCR Tower 16 Release 3.01.00, NCR Tower 32 Release 1.02.00

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.20. Plexus

2.20.1. Plexus Gateway

PRODUCT-OR-PACKAGE-NAME: DDN Communications Gateway

DESCRIPTION:

A DDN implementation using an intelligent front-end processor to control MIL Standard TCP, IP and ICMP. Both X.25 and/or 1822 interfaces are available. TELNET, FTP and Send Mail applications reside in the Host job processor.

DOCUMENTATION:

Installation and Users manual are provided.

CPU:

P/35, P/55/, P/60, P/75

O/S:

Plexus implementation of UNIX System V

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Plexus Computers, Inc.
3833 North First Street
San Jose, CA 95134
(408) 943-9433

CONTACT:

Local Plexus Sales Office

ORDERING-PROCEDURE:

Through above contact

PROPRIETY-STATUS:

Plexus product

INFORMATION-UPDATED:

July 1986

2.20.2. Plexus LAN

PRODUCT-OR-PACKAGE-NAME: TCP/IP LAN

DESCRIPTION:

An Ethernet LAN implementation using an intelligent front-end processor. TCP, IP and UDP protocols are downloaded into the front-end processor. FTP, Telnet, Mail and remote commands such as rlogin, rsh and rcp reside on the Host job processor.

DOCUMENTATION:

Installation and Users manual are provided.

CPU:

P/35, P/55/, P/60, P/75

O/S:

Plexus implementation of UNIX System V

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Plexus Computers, Inc.
3833 North First Street
San Jose, CA 95134
(408) 943-9433

CONTACT:

Local Plexus Sales Office

ORDERING-PROCEDURE:

Through above contact

PROPRIETY-STATUS:

Plexus supported product

INFORMATION-UPDATED:

October 1986

2.21. PRIME

2.21.1. PRIME 50 Series

PRODUCT-OR-PACKAGE-NAME: PRIME TCP/IP

DESCRIPTION:

This is a TCP/IP-based network software package which uses X.25 as the ISO model Network Layer.

Services supported include SMTP, client and server FTP, client and server Telnet. A set of interface libraries is provided to enable applications coded in any PRIME-supported language to utilize TCP/IP for communications. In addition, the TCP Daytime, Character Generator, Discard, and Active Users protocol servers and PRIMOS command processors are provided.

DOCUMENTATION:

Use of the generic network systems is documented in standard manuals describing TCP/IP. A Prime computer system installation and user guide is also provided.

CPU:

All PRIME 50-series computers:

2350, 2450 (Tower packaging systems); 2250, 2655 (Office packaging); 9655, 9750, 9955 (Computer room packaging)

O/S:

PRIMOS (Revision 19.4.5 or later)

IMPLEMENTATION-LANGUAGE:

FTP, SMTP, Telnet in C; other code in PRIME's SPL, PLP, PMA

DISTRIBUTOR:

PRIME Computer
Custom Systems Group
492 Old Connecticut Path
Framingham, MA 01701

CONTACT:

PRIME Custom Systems Group, (617) 626-1700 ext. 3869

ORDERING-PROCEDURE:

Contact Prime Custom Systems Group

PROPRIETY-STATUS:

Product of PRIME Computer, Inc.

INFORMATION-UPDATED:

February 1986

2.22. Pyramid Technology

2.22.1. Pyramid NSP

PRODUCT-OR-PACKAGE-NAME: Pyramid's Networking Software Package (NSP)

DESCRIPTION:

The Pyramid system is based upon the RISC (Reduced Instruction Set Computer) design implementing pipelining and a large number (528) of registers to maximize performance and reduce context switching. The Pyramid system has grown into a family of computer products. They range from the single processor 90x to the Isoprocessor (dual processors) 98x. Pyramid systems support high capacity online storage (over 15 G bytes) and high performance (20 M bytes/sec) I/O.

All Pyramid systems offer Pyramids dualPort OSx operating system which supplies users with both UNIX standards (Berkeley 4.2 BSD and AT&T System V) concurrently. NSP implements the DARPA family (TCP/IP/UDP) of protocols under OSx. These protocol implementations are based upon the 4.2 BSD implementation of the MIL-STD protocols. They include TELNET (remote login), FTP (file transfer), and SMTP (mail). In addition to the standard internet protocols, Pyramid supports the following TCP/IP services: netstat, rcp, rdump, rlogin, rrestore, rsh, ruptime, and rwho.

Pyramid's NSP product is available to implement point-to-point internetwork links over ASCII asynch serial lines at speeds from 1200 bps to 19.2 Kbps. NSP offers full networking support for Ethernet (10 Mbps), HYPERchannel (50 Mbps), and X.25 (from 1200 bps to 64 Kbps). Pyramid's X.25 passed DDN certification in April of 1986. The certification was for standard service at 56 Kbps.

Pyramid has implemented the Network File System (NFS) protocol to allow computer systems, workstations, and personal computers to share file systems across the network. The NFS is implemented on a Remote Procedure Call protocol, and External Data Representation (RPC and XDR) standard, to allow portability across different computer architectures. All of these protocols use the DARPA standard Internet Protocol (IP).

DOCUMENTATION:

Available from vendor

CPU:

Pyramid WorkCenter, 90x, 98xe, and 98x

O/S:

dualPort OSx, UNIX 4.2 BSD and UNIX System V

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Pyramid Technology
1295 Charleston Road
Mountain View, CA 94043
(415) 965-7200

CONTACT:

Pyramid local office or Pyramid Product Marketing

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

September 1986

2.23. RIDGE

2.23.1. RIDGE

PRODUCT NAME: Ridge TCP/IP

DESCRIPTION:

This product is based on the 4.2 BSD release which includes Telnet, FTP and the 4.2 programs--rlogin, rcp, rsh, ruptime and rwho. In addition, the CMU packet filter for Ethernet is also part of the release.

DOCUMENTATION:

Available

CPU:

Ridge 32

O/S:

ROS 3.3

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Ridge Computers
2451 Mission College Blvd.
Santa Clara, CA 95054

CONTACT:

Larry Lunetta, Director, Marketing, (408) 986-8500

ORDERING-PROCEDURE:

Call or write for information

INFORMATION-UPDATED:

January 1986

2.24. Sperry

2.24.1. Chi Communications Processor

PRODUCT-OR-PACKAGE-NAME: Chi Communications Processor (CCP) TCP/IP

DESCRIPTION:

TCP/IP is implemented in the CCP for use as a front-end to Sperry 1100 series machines. The CCP channel connects to the Sperry and also provides, through TCP/IP, connectivity to IBM and DEC hosts. The implementation supports TCP, IP, FTP, TELNET, and ICMP. The data link and physical layer protocols are implemented as specified in IEEE 802.3 (10 Base 5). The CCP interfaces to a TCP/IP network through a Series 3200 Ethernet Controller and Chi's Ethernet driver software. These communicate with the IP layer. A DCA certified X.25 network interface is available for connection to the DDN. The CCP can be configured as a remote concentrator, providing yet another method by which remote terminals can access DDN hosts. Chi also offers technical support for interfacing Sperry computing environments to the DDN.

DOCUMENTATION:

Technical manual provided with product; descriptive literature available

CPU:

Versions based on Concurrent Computer's Model 3205 and 3212 processors

O/S:

Chi proprietary, CCP/OS, which communicates with Sperry OS 1100

IMPLEMENTATION-LANGUAGE:

C and assembler

DISTRIBUTOR:

Chi Corporation
26055 Emery Road
Cleveland, OH 44128

CONTACT:

Sales Coordinator, (216) 831-2622

ORDERING-PROCEDURE:

Contact Chi Corporation

PROPRIETY-STATUS:

Proprietary product of Chi Corporation

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1987

2.24.2. Maryland TCP/IP

PRODUCT-OR-PACKAGE-NAME: IP/TCP-1100 -- Current level 2R2Q5

DESCRIPTION:

The University of Maryland Computer Science Center has implemented TCP/IP for the Sperry 1100 Series computer systems. The implementation currently supports IP, ICMP, TCP, server TELNET, server FTP, user and server SMTP, user and server MDQS. The link level connection is via a 40KB synchronous link or Sperry word channel. Direct connection to an Ethernet is under construction. Currently running on at least 3 Internet hosts including UMD2.UMD.EDU.

DOCUMENTATION:

Installation, configuration and operation documentation is provided in both printed and machine readable form. No internals documentation is currently available. Package is distributed in source form.

CPU:

Sperry 1100/60 EIS, 1100/70 EIS, 1100/80, 1100/90

O/S:

OS1100 Level 38R5 or later

IMPLEMENTATION-LANGUAGE:

PLUS and MASM

DISTRIBUTOR:

Systems Staff
Computer Science Center
University of Maryland
College Park, MD 20742

CONTACT:

Louis A. Mamakos, (louie@TRANTOR.UMD.EDU),
Michael G. Petry, (petry@TRANTOR.UMD.EDU),
(301) 454-2946

ORDERING-PROCEDURE:

Contact distributors for current procedure.

PROPRIETY-STATUS:

Developed under state of Maryland funding by public institution; available to any requestor

INFORMATION-UPDATED:

March 1986

2.24.3. Sperry-1100

PRODUCT-OR-PACKAGE-NAME: SPERRY-1100

DESCRIPTION:

The following DDN protocols are supported in this implementation: IP, ICMP, TCP, Telnet, FTP and SMTP. In addition, X.25 and HDLC Distant Host are supported. FTP and SMTP are implemented within DDP in the 1100 host. All other protocols are implemented within TELCON. Two hardware configurations are required as a minimum at each Series 1100 host location: an 1100/60, 1100/70, 1100/80 or 1100/90 computer and a Distributed Communications Processor (DCP/40, DCP/20 or DCP/10A) as a front-end. The DCP's may also be configured as remote concentrators to provide remote terminal access to DDN hosts. A medium or high-speed loadable line module configured to support bit-synchronous communications protocols is required in the DCP to support the HDLC interface. The DDN X.25 interface was unconditionally qualified with DCA in February of 1985.

DOCUMENTATION:

Available from vendor

CPU:

Sperry 1100 60/70/80/90 and Sperry DCP 40/20/10A

O/S:

IS 1100; TELCON

IMPLEMENTATION-LANGUAGE:

PLUS for 1100 software; TELCON assembler for DCP

DISTRIBUTOR:

Sperry Corporation
Federal Government Marketing
8008 Westpark Drive
McLean, VA 22102

CONTACT:

George Blankenship, (703) 556-5050

ORDERING-PROCEDURE:

Vendor restricted distribution; contact sales rep

PROPRIETY-STATUS:

Proprietary product of Sperry

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

2.24.4. Sperry Series 5000

PRODUCT-OR-PACKAGE-NAME: SPERRY DDN-5000

DESCRIPTION:

The following DDN protocols are supported: DDN X.25, IP, ICMP, TCP, Telnet, FTP, and SMTP. The electrical interfaces conforms to EIA RS-449/442. The DDN X.25 interface was unconditionally qualified for standard mode operation in March of 1986.

DOCUMENTATION:

Available from vendor

CPU:

Sperry 5000/20, 5000/40, 5000/60, 5000/80, and 5000/90

O/S:

UNIX System V Release 2.0

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Sperry Corporation
Federal Government Marketing
8008 Westpark Drive
McLean, VA 22102

CONTACT:

George Blankenship, (703) 556-5050

ORDERING-PROCEDURE:

Vendor restricted distribution; contact sales rep

PROPRIETY-STATUS:

Proprietary product of Sperry

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

2.24.5. Network Solutions OPEN-Link

PRODUCT-OR-PACKAGE-NAME: OPEN-Link for Sperry OS1100

DESCRIPTION:

OPEN-Link is a series of communications software and hardware products which meet the Defense Communication Agency MIL-STDs for the Defense Data Network, for use on any of the DDN networks, such as ARPANET, MILNET, etc. These products also conform to the conventions of the UNIX 4.2 BSD implementation of these protocols for use with the many popular UNIX based graphic workstations, such as SUN, APOLLO, CIMLINK, CADNETIX, VALID LOGIC and others.

OPEN-Link supplies TCP/IP communication protocol software products, an Application Programming Interface to TCP functions for PASCAL and MASM, and the MIL-STD applications File Transfer (FTP), Virtual Terminal (TELNET), and Simple Mail Transfer (SMTP).

OPEN-link connects the SPERRY 1100 host to Ethernet or DDN X.25 networks through a channel attached Front End Processor. The X.25 connection can also be made certifiable to certain commercial X.25 networks such as GTE TELENET, TYMNET and others.

DOCUMENTATION:

A full set of documentation is available.

CPU:

Sperry 11xx

O/S:.

OS/1100

IMPLEMENTATION-LANGUAGE:

PASCAL, MASM, PLUS

DISTRIBUTOR:

Network Solutions, Inc.
Products Groups
8229 Boone Blvd., 7th Floor
Vienna, VA 22180

CONTACT:

Mary Bloch, (703) 749-1900

ORDERING-PROCEDURE:

Submit purchase order to above address; see above contact for pricing.

PROPRIETY-STATUS:

Product of Network Solutions

INFORMATION-UPDATED:

August 1987

2.25. Sun Microsystems

2.25.1. LBL tcpdump

PRODUCT-OR-PACKAGE-NAME: tcpdump

DESCRIPTION:

This program passively monitors an ethernet and displays information about the packet traffic. It will display time and ethernet protocol information (source, destination, protocol and size) for any type of packet. In addition it will display all the protocol information in TCP, IP, UDP and ICMP packets. The output may be captured on a file for later analysis. A simple expression language allows a user to selectively dump only "interesting" traffic (e.g., "tcpdump host foo and net arpanet" to watch only the traffic between host "foo" and hosts on the ARPANET).

DOCUMENTATION:

Lengthy manual entry, sample outputs and sample post-capture analysis tools included with distribution.

CPU:

Sun-3 (any model)

O/S:

Sun OS 3.2 or later

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Van Jacobson, van@lbl-csam.arpa
Real Time Systems Group
Lawrence Berkeley Laboratory
1 Cyclotron Road
Berkeley, CA 94720

CONTACT:

See above

ORDERING-PROCEDURE:

Obtain via anonymous ftp from Internet host lbl-rtsg.arpa (128.3.254.68 or 128.3.255.68). Ftp the file tcpdump.tar, a binary file in UNIX tar format. The tar file contains the program, documentation and examples.

Note: the only form of distribution from LBL is via anonymous ftp.

PROPRIETY-STATUS:

Program source (currently) proprietary. Program and documentation copyrighted but may be freely copied and redistributed (see README file in distribution).

INFORMATION-UPDATED:

January 1987

2.25.2. Sun-68000

PRODUCT-OR-PACKAGE-NAME: SunLink DDN, SunLink IR, Sun Workstation

DESCRIPTION:

SunLink DDN is a member of the SunLink product family. The SunLink products implement industry and de-facto standard protocols to provide wide-area and multivendor networking. SunLink DDN includes the host-PSN protocol layers below IP, allowing Suns to provide DDN host services to a multivendor Ethernet network or internetwork which supports the TCP/IP protocol suite. SunLink DDN includes the three major interfaces defined by DoD: DDN Standard X.25, DDN Basic X.25 and 1822 HDH/HDLC. The software runs on any Sun processor with an available local port or on a Sun equipped with the SCP board for higher speeds.

Another SunLink family member, SunLink IR, implements point-to-point internetwork links and allows dynamic routing of IP packets. It uses either the CPU's standard serial ports for transmission speeds of up to 19.2 Kbps, or the SunLink Communication Processor (SCP) for higher speeds.

The Sun-3 is a VMEbus-based product family that uses the Motorola 68020 virtual memory processor and 68881 floating point processor. The Sun systems run 4.2 BSD UNIX with AT&T System V compatibility enhancements. Sun's native networking architecture includes the 4.2 BSD TCP/IP protocols in conjunction with a 10 Mbit/second Ethernet local area network. In addition to the standard internet protocols, Sun supports the same services as the 4.2 BSD VAX UNIX network software: rlogin, rsh, rwho, ruptime, routed, and rexecd.

Sun's network services let users establish consistent directory and file structures on distinct machines. These network services, such as Network File System (NFS) and Yellow Pages (YP), are based upon Sun's Remote Procedure Call (RPC) protocol and External Data Representation (XDR) standard to allow portability across different computer architectures. NFS allows workstations to share file systems across the network; the YP protocols are used to provide domain-wide distributed administrative databases, such as user names and mail aliases.

DOCUMENTATION:

Available from vendor

CPU:

Motorola 68020

O/S:

UNIX, Berkeley 4.2 BSD and AT&T System V

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Sun Microsystems, Inc.
2550 Garcia Avenue
Mountain View, CA 94043

CONTACT:

General Information: (800) 821-4643; In CA: (800) 821-4642

ORDERING-PROCEDURE:

Available from vendor

PROPRIETY-STATUS:

All network source code is available. The NFS is available for license to other vendors. The RPC and XDR libraries have been made publicly available at no charge.

INFORMATION-UPDATED:

July 1986

2.25.3. Sun ProNET Device Drivers

PRODUCT-OR-PACKAGE-NAME: Sun Device Drivers for ProNET-10 & 80 networks

DESCRIPTION:

The ProNET-10 and ProNET-80 Token Ring networks offer advantages of speed, distance, and media flexibility over the Ethernet supported by the Sun Microsystems workstations. The Sun device drivers connect the ProNET-10 and ProNET-80 boards to Sun's TCP/IP code, allowing all the the existing software (including NFS) to operate over ProNET.

There are ProNET boards for the Multibus and Sun VMEbus processors. The p5203 device driver is for Multibus Sun-2 processors, and supports the p1200 ProNET-10 Multibus System or the p1280 ProNET-80 Multibus System. The p5204 device driver is for VMEbus Sun-2 and Sun-3 processors, and supports the p1503 ProNET-10 Sun VMEbus System or the p1583 ProNET-80 Sun VMEbus System.

DOCUMENTATION:

Includes full hardware/software installation manual

CPU:

Sun-2 or Sun-3

O/S:

SunOS, Version 3.0 or higher

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

PROPRIETY-STATUS:

Licensed code of Proteon, Inc.

INFORMATION-UPDATED:

February 1987

2.26. Symbolics

2.26.1. Symbolics LISP Machine

PRODUCT-OR-PACKAGE-NAME: Symbolics TCP/IP

DESCRIPTION:

An implementation of the Internet protocol family for Symbolics 36xx Machines running release 5.2 or later. This includes IP, ICMP, TCP, and UDP. Higher level protocols supported include Telnet, SUPDUP, FTP, SMTP and TFTP. TCP/IP is completely integrated in the Lisp Machine generic network system and will be used by the system automatically whenever necessary.

DOCUMENTATION:

Use of the generic network system is documented in standard manuals and is available online through a keyword lookup system.

CPU:

Symbolics Machine (3600, 3640 and 3670)

O/S:

Symbolics Lisp System (Release 5 or later)

IMPLEMENTATION-LANGUAGE:

Lisp Machine LISP

DISTRIBUTOR:

Symbolics, Inc.
4 Cambridge Center
Cambridge, MA 02142

CONTACT:

Local Symbolics sales office or Symbolics, Inc. (Sales), (617) 576-2600

ORDERING-PROCEDURE:

Contact Symbolics Marketing

PROPRIETY-STATUS:

Proprietary product of Symbolics, Inc.

INFORMATION-UPDATED:

December 1985

2.27. Tandem Computers, Incorporated

2.27.1. [Guardian/NonStop II]

DESCRIPTION:

Tandem is currently developing TCP/IP to run with X.25. It is expected to be available in the spring of 1987. Telnet, FTP and SMTP are the upper layer protocols under development also.

DOCUMENTATION:

Users manuals will be available when products are released

CPU:

Tandem NonStop II and Txp Processors

O/S:

Guardian

IMPLEMENTATION-LANGUAGE:

TAL

DISTRIBUTOR:

Tandem Computers
19333 Vallco Parkway
Cupertino, CA 95014

CONTACT:

Gale Burnette, (703) 476-3066

ORDERING-PROCEDURE:

Contact Tandem

PROPRIETY-STATUS:

Tandem proprietary product

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

February 1986

2.28. Xerox Corporation

2.28.1. Xerox XDE

PRODUCT-OR-PACKAGE-NAME: XDE (Xerox Development Environment) 5.0 Desktop

DESCRIPTION:

The TCP/IP package in XDE 5.0 supports the use of the TCP/IP family of networking protocols. It supports the application protocols of FTP, TFTP, SMTP and Telnet and the networking protocols of IP, TCP, UDP and ARP, as outline by various RFCs. This package also provides for window-based user interfaces to the above application protocols and Mesa language programming interfaces to the above protocols.

DOCUMENTATION:

Programmer level documentation to each of the individual application level protocols as well as network level protocols is given and user interface documentation for the tools which use these applications.

CPU:

This software is for use on the 8010 and 6085 processors. These are proprietary processors optimized for the running of the Mesa language.

O/S:

Pilot 12.3 operating system (Xerox proprietary)

IMPLEMENTATION-LANGUAGE:

Mesa 12.3

DISTRIBUTOR:

Xerox Corporation
101 Continental Boulevard
El Segundo, CA 90245

CONTACT:

Local Xerox Sales Representative or XDE Product Marketing, (408) 737-4418

ORDERING-PROCEDURE:

Contact above

PROPRIETY-STATUS:

Product of the Xerox Corporation for 8010 and 6085 workstations

INFORMATION-UPDATED:

August 1986

2.29. MULTIPLE-MACHINE IMPLEMENTATIONS

2.29.1. CMC-Gateway

PRODUCT-OR-PACKAGE-NAME: CMC Internet TCP/IP for Ethernet

DESCRIPTION:

An implementation of the TCP/IP family of protocols for UNIX System V hosts. The TCP, IP, ICMP and UDP protocols run on the Node Processor, allowing users access to an Ethernet. Applications, which run in the host UNIX system, include TELNET, FTP and NETBIOS for PC-DOS and TELNET, FTP and SMTP for VMS.

DOCUMENTATION:

Internet User's Guide, Internet Programmer's Guide, Internet Systems Manager Guide

CPU:

ENP-10 for VMEbus (UNIX)
ENP-40 for UNIBUS (VMS)
ENP-50 for Qbus (MICROVMS)
ENP-30 for MULTIBUS (UNIX)
ENP-60 for IBM-PC/AT/XT

O/S:

UNIX System V, DOS 3.X, VMS, MICROVMS

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Communication Machinery Corporation
1421 State Street
Santa Barbara, CA 93101

CONTACT:

Sales Support, 1-800-CMC-8023 or 805-963-9471

ORDERING-PROCEDURE:

Contact CMC Marketing

PROPRIETY-STATUS:

CMC Proprietary

INFORMATION-UPDATED:

August 1987

2.29.2. Excelan EXOS 8000S

PRODUCT-OR-PACKAGE-NAME: EXOS 8000S - TCP/IP Network Software Source Package

DESCRIPTION:

The EXOS 8000S TCP/IP Network Software source package provides the source code to port the EXOS TCP/IP Network Software to a Unix-derived operating system or to adapt it to run under a non-Unix operating system. The EXOS 800S Network Software contains a set of protocol software modules and network utilities for connecting host systems to an Ethernet network through an EXOS 200 Series or EXOS 300 series Intelligent Ethernet Controller.

Porting or adapting the software requires an Ethernet/IEEE 802.3 network, two computer systems running the target operating system and suitably attached to the network through EXOS Intelligent Ethernet Controller boards, and knowledge of Unix and the C programming language.

DOCUMENTATION:

EXOS 8000S TCP/IP Network Software Source Package Reference Manual

CPU:

Host-system CPU

O/S:

Unix derivative, or other

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales:
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.29.3. Excelan EXOS 8012-03

PRODUCT-OR-PACKAGE-NAME: EXOS 8012-03 - TCP/IP Network Software for Intel 286/310 systems

DESCRIPTION:

Excelan's EXOS 8012-03 implements DoD TCP/IP protocols, to connect Intel 286/310 systems running Xenix 286 to Ethernet networks. EXOS 8012-01 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 201 Intelligent Ethernet controller for Multibus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet, ud, R-utilities) run on the Intel 286/310. EXOS 8012-03 user applications also include C program socket library and network administration utilities.

DOCUMENTATION:

EXOS 8012-03 TCP/IP Network Software for Intel 286/310 systems Reference Manual

CPU:

Intel 286/310 systems

O/S:

Xenix 286, release 3.4

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales:
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.29.4. Excelan EXOS 8014

PRODUCT-OR-PACKAGE-NAME: EXOS 8014 - TCP/IP Network Software for 386-based PCs running UNIX 5.3

DESCRIPTION:

Excelan's EXOS 8014 implements DoD TCP/IP protocols to connect 386-based PCs running UNIX 5.3 to Ethernet networks. EXOS 8014 is a front-end TCP/IP implementation that operates in conjunction with an EXOS 205T Intelligent Ethernet controller for PC-Bus. The TCP/IP protocols (TCP, IP, UDP, ICMP, ARP) and Telnet/rlogin servers run on the controller and the user applications (FTP, Telnet, ud, R-utilities) run on the 386-based PC. EXOS 8014 user applications also include C program socket library and network administration utilities.

DOCUMENTATION:

EXOS 8014 TCP/IP Network Software for 386-based PCs running UNIX 5.3 Reference Manual

CPU:

Intel 80386

O/S:

UNIX 5.3

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Inside Sales:
Excelan, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 434-2300

Europe:
Excelan
Weir Bank
Bray-on-Thames, N. Maidenhead
Berkshire SL6 2ED England
Telephone: 0628-34281
Telex: 847591

CONTACT:

Inside Sales (408) 434-2300, 1-800-EXCELAN, 1-800-521-3526 (inside CA)

ORDERING-PROCEDURE:

Contact Inside Sales

INFORMATION-UPDATED:

August 1987

2.29.5. FUSION UNIX

PRODUCT-OR-PACKAGE-NAME: FUSION Network Software

DESCRIPTION:

Network software for Ethernet, ProNET, Omninet. Runs TCP/IP and/or XNS protocols. Provides file transfer (FTP/send,recv), virtual terminal (Telnet), network management. Interoperates with 4.2 UNIX, socket calls. (See also entry for FUSION VMS).

DOCUMENTATION:

User manuals for UNIX, Network Administrators Manual, Programmers Reference Manual

CPU:

8088 (IBM-PC and compatibles), 8086, 80186, 80286, 68000, 32000, PDP-11, VAX, Rainbow, DEC Pros

O/S:

UNIX: 4.2 BSD, System 3, Version 7, System V, Xenix 3, Xenix 5, Venix, PC/IX

IMPLEMENTATION-LANGUAGE:

C, runs on system's native C compiler

DISTRIBUTOR:

Network Research Corporation
4010 Moorpark
San Jose, CA 95117

Direct Sales:

San Francisco:	(408) 248-2121
Los Angeles:	(805) 485-2700
Chicago:	(312) 920-9777
Boston:	(617) 787-7846
Washington D.C.:	(703) 648-1570

CONTACT:

K.W. Sanofsky, San Francisco Branch Sales Manager

ORDERING-PROCEDURE:

See above

PROPRIETY-STATUS:

Developed by Network Research Corporation

INFORMATION-UPDATED:

August 1986

2.29.6. FUSION VMS

PRODUCT-OR-PACKAGE-NAME: FUSION Network Software

DESCRIPTION:

Network software for Ethernet and ProNET. Runs TCP/IP and/or XNS protocols. Provides file transfer (FTP/send, recv), virtual terminal (Telnet), network management. Interoperates with UNIX 4.2 BSD socket calls. (See also entry for FUSION UNIX).

DOCUMENTATION:

User manuals for VMS, Programmers Reference Manual, Network Administrator Manual

CPU:

PDP-11, VAX-11, MicroVAX, Rainbow, DEC Pros

O/S:

VMS, MicroVMS

IMPLEMENTATION-LANGUAGE:

C, runs on system's native C compiler

DISTRIBUTOR:

Network Research Corporation
4010 Moorpark
San Jose, CA 95117

Direct Sales:	
San Francisco:	(408) 248-2121
Los Angeles:	(805) 485-2700
Chicago:	(312) 920-9777
Boston:	(617) 787-7846
Washington D.C.:	(703) 648-1570

CONTACT:

K.W. Sanofsky, San Francisco Branch Sales Manager

ORDERING-PROCEDURE:

See above contact

PROPRIETY-STATUS:

Developed by Network Research Corporation

INFORMATION-UPDATED:

August 1986

2.29.7. LANlord

PRODUCT-OR-PACKAGE-NAME: LANlord High Speed Networking System

DESCRIPTION:

This is a high performance back-end LAN (25 Mb/s) designed to physically, electronically and logically connect mainframe computers and other networking technologies.

Release TWO of LANlord implements TCP/IP protocols on the network, supports FTP applications on the host, and will available 4th quarter 1987.

LINKlord gateways implementing T-1 links between LANlord networks are available now. A LINKlord gateway from Cray to Ethernet using TCP-IP protocols will be available 4th quarter 1987.

CPU:

IBM, DEC (all processors interfacing to DEC DR11-W and DRB32)

O/S:

MVS, VMS, UNIX

DISTRIBUTOR:

Computer Network Technology
9440 Science Center Drive
New Hope, MN 55428

CONTACT:

Bob Lutnicki, (800) 638-8324

ORDERING-PROCEDURE:

Call for information

INFORMATION-UPDATED:

August 1987

2.29.8. NRTC ISODE

PRODUCT-OR-PACKAGE-NAME: The ISO Development Environment at NRTC (ISODE 2.0)

DESCRIPTION:

This software supports the development of certain kinds of ISO/CCITT/ECMA protocols and applications.

Current modules include:

- TSAP - ISO transport service (TP0 on top of TCP)
- SSAP - ISO session service
- PSAP - ASN.1 abstract syntax and transfer notation
- PEPY - ASN.1 to internal datastruture facility
- PSAP2 - ISO presentation service
- AcSAP - ISO association control service
- RtSAP - ISO/CCITT reliable transfer service
- RoSAP - ISO/CCITT/ECMA remote operations service

Although the ISODE is not "supported" per se, it does have a problem-reporting address, see below. Bug reports (and fixes) are welcome, by the way.

DOCUMENTATION:

User's Manual (approx. 300 pages, sources in LaTeX); UNIX manual entries (sources in roff)

CPU:

Any

O/S:

- BSD 4.2 UNIX
- AT&T SVR2 UNIX with EXCELAN EXOS 8044 TCP/IP card
- AT&T SVR2 UNIX with WIN TCP/IP package
- ROS (the Ridge Operating System)
- HP-UX

Future releases will probably support VAX/VMS, PC-XENIX, and PC/IP.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR (NORTH AMERICA):

Department of Electrical Engineering
Attn: Prof. David J. Farber
University of Delaware
Newark, DE 19716
USA
(302) 451-1163

DISTRIBUTOR (EUROPE):

Department of Computer Science
Attn: Soren Sorenson
University College
Gower Street
London, WC1E 6BT
UK
(44) 1-387-7050 x3680

CONTACT:

ISODE-People@NRTC.NORTHROP.COM

ORDERING-PROCEDURE:

Send a check or purchase order to either distribution facility listed above. Do not send tapes or envelopes.

North America: $130.00 US dollars for source tape $20.00 for documentation set

Europe: 100 pounds sterling for source and documentation (documentation only is also 100 pounds sterling)

Alternately, if you can FTP to the DARPA/NSF Internet, you can use anonymous FTP to louie.udel.edu [10.0.0.96] and retrieve the file portal/isode-2.tar. This is a 5MB tar image. The file portal/isode-2.tar.Z is the tar image after being run through the compress program (approx. 2MB).

Alternately, if you run NIFTP over the public X.25 or over JANET, and are registered in the NRS at Salford, you can use NIFTP with username of guest, and your own name as password, to access UK.AC.UCL.CS to retrieve the file <SRC>isode-2.tar. This is a 5MB tar image. The file <SRC>isode-2.tar.Z is the tar image after being run through the compress program (approx. 2MB).

PROPRIETY-STATUS:

Openly available under a "hold harmless" clause

INFORMATION-UPDATED:

March 1987

2.29.9. Unisoft UNIX

PRODUCT-OR-PACKAGE-NAME: B-NET

DESCRIPTION:

The UNIPLUS+ networking software which offers multiple and interactive links between UNIPLUS+ based systems (68000-based) and other computers running TCP/IP compatible protocols. The interconnected systems may use a variety of physical layers including Ethernet LAN products and may be geographically distributed or physically adjacent to one another and interconnected in a variety of topologies.

B-NET features include: process-to-process communication, remote file transfer, virtual terminal facilities, datagram service, electronic mail, automatic route-through, flexibility for adding additional network drivers, and access to all levels of protocols.

This software is basically an enhanced version of Berkeley's 4.2 UNIX.

DOCUMENTATION:

Available through vendor

CPU:

68000-based systems

O/S:

Unisoft UNIX (Berkeley's 4.2 with enhancements)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Unisoft Systems
2405 Fourth Street
Berkeley, CA 94710

CONTACT:

Carl Smith, (415) 644-1230

INFORMATION-UPDATED:

July 1986

3. HARDWARE IMPLEMENTATIONS

3.1. Adax

3.1.1. Adax STANDARD DDN

PRODUCT-OR-PACKAGE-NAME: STANDARD DDN

DESCRIPTION:

STANDARD DDN is a DCA qualified interface to the Defense Department Network standard service offering the DDN utilities TELNET, FTP, and SMTP over a X.25/IP/TCP protocol stack. STANDARD DDN also supports the Berkeley communication utilities rsh, rlogin, and rcp over X.25/IP/TCP.

STANDARD DDN runs under the UNIX operating system and offers a convenient user interface with local shell escape and quote command.

For the PCbus, STANDARD DDN requires the Adax PC-SDMA communication board offering a jumper selectable RS-232C interface and RS-449/422 interface with data rates up to 1M bit per second.

For the Multibus, STANDARD DDN requires the Adax SSC communication board offering either an RS-232C interface or RS-449/422 interface with data rates up to 1 Mbit per second.

STANDARD DDN runs on the Plexus P/35 or P/60, the Arete 1000 or 1200, the NCR Tower XP or 32, or the Sperry 5000 series computers. Portation to the IBM PC/AT and compatibles and various 80386 machines under Xenix is expected to be finished in April 1987.

DOCUMENTATION:

Available from vendor

CPU:

Motorola 68000/10/20, Plexus P/35 or P/60, Arete 1000 or 1200, NCR Tower XP or 32, Sperry 5000 series; Intel 80286/386, IBM PC/AT and 80386 machines available April 1987

O/S:

UNIX System V; Xenix will be available April 1987

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Adax, Inc.
612 Bancroft Way
Berkeley, CA 94710

CONTACT:

Les Wilson, (415) 548-7047

ORDERING-PROCEDURE:

Available from vendor

PROPRIETY-STATUS:

Proprietary product of Adax

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

February 1987

3.2. Advanced Computer Communications

3.2.1. ACC ECU-11

PRODUCT-OR-PACKAGE-NAME: ECU-II

DESCRIPTION:

The Error Control Unit provides an error-controlled link for long distance connection of 1822 devices to PSNs. Data transfer between ECU-II units can take place at 1.5Mb/s when directly connected by a 4-pair low capacitance cable up to 914 meters (3000 feet) in length. Lower rates can be selected or determined by attached modem types 303, 209, V.35, or 188-114. Units are in pairs, one at each end of the communication link. The data rate is enhanced by elimination of the need for inter resource "handshaking" on every bit transferred. The units serve as store-and-forward buffers, receiving and buffering resource-generated data in semi-conductor RAMs, then forwarding it by special protocol to the ECU near the other resource device. Since the ECUs have two separate buffers they are capable of simultaneous receipt and transmission in each direction. ECUs communicate with the IMP via direct cable or modems.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

3.2.2. ACC IF-11Q/1822

PRODUCT-OR-PACKAGE-NAME: IF-11Q/1822

DESCRIPTION:

Full-duplex DMA controller used to attach a DEC LSI-11, or MicroVAX to a PSN supporting 1822 protocol. Operates in Local Host or Distant Host modes. If more than one PSN connection is required, optional XQ/1822 boards can be added.

DOCUMENTATION:

Fully documented vendor product

CPU:

PDP-11/03, PDP-11/23, and MicroVAX

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor restricted product; contact above

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

3.2.3. ACC ACS 9305

PRODUCT-OR-PACKAGE-NAME: ACS 9305 (aka IF-370/DDN)

DESCRIPTION:

The ACS 9305 provides a full-service interface between an IBM MVS or VM host and the DDN. Its hardware and software subsystems connect the IBM block multiplexer channel to the DDN PSN, supporting DDN Standard Mode X.25 and HDH (1822-J) protocol access. The ACS 9305 is capable of supporting T1 access to the PSN, through the use of 68000 microprocessor technology. The hardware interface is a front-end processor that performs three levels of protocol functions and interfaces to host-resident software sub-system implementing the high-level DoD protocols. These software modules can be either the ACCES/MVS package for MVS systems, or the IBM VM Interface Program for TCP/IP.

CPU:

IBM-370, 43xx, 30xx, and any IBM-compatible machine which supports a FIPS-60 channel interface.

O/S:

MVS - ACC's ACCES/MVS package

VM - IBM's VM Interface Program for TCP/IP (5798-DRG)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical Marketing: Jim Thrower, IBM Product Manager, (805) 963-9431

ORDERING-PROCEDURE:

Call or write for information

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.2.4. ACC IF-IMP/370

PRODUCT-OR-PACKAGE-NAME: IF-IMP/370 (IF-370/1822)

DESCRIPTION:

Connects an IBM host computer to a PSN supporting 1822 protocol. Interfaces to a IBM Byte Channel. Operates in either Local Host or Distant Host mode. MVS operating system support provided by the UCLA ARPANET Control Program.

DOCUMENTATION:

Fully documented vendor product

CPU:

IBM-370, 43xx, or any IBM compatible system

O/S:

MVS

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor restricted product; contact above

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

3.2.5. ACC LH-DH/11

PRODUCT-OR-PACKAGE-NAME: LH-DH/11

DESCRIPTION:

The LH-DH/11 is a full-duplex Direct Memory Access (DMA) controller that attaches to a DEC PDP-11 or VAX UNIBUS and provides external communication to the PSN supporting 1822 protocol. By means of interchange of plug-in circuits, the controller can be used for either local host (30' cable limit) or distant host (2000' cable limit) applications.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

CPU:

PDP-11, VAX-11

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMAION-UPDATED:

August 1986

3.2.6. ACC IF-11/HDH

PRODUCT-OR-PACKAGE-NAME: IF-11/HDH

DESCRIPTION:

This is a full-duplex DMA error checking communication unit which attaches a PDP-11 or VAX to a DDN PSN supporting HDH (1822-J) protocol.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

CPU:

PDP-11, VAX-11

O/S:

UNIX 4.2 and 4.3 BSD, ULTRIX, VMS (Supported by Wollongong, Internet)

UNIX System V (supported by Uniq Digital Technologies)

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Pending

INFORMATION-UPDATED:

August 1986

3.2.7. ACC IF-11Q/HDH

PRODUCT-OR-PACKAGE-NAME: IF-11Q/HDH

DESCRIPTION:

Full-duplex DMA controller used to attach a DEC LSI-11, or a MicroVAX to a DDN PSN supporting HDH (1822-J) protocol. Utilized in Fuzzball gateways.

DOCUMENTATION:

Fully documented vendor product

CPU:

PDP-11/03, PDP-11/23 and MicroVAX

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Restricted vendor product

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

3.2.8. ACC M/1822

PRODUCT-OR-PACKAGE-NAME: M/1822

DESCRIPTION:

DMA controller used to attach a MULTIBUS system to a DDN supporting 1822 protocol. Operates in either Local Host or Distant Host modes. Currently implemented on SUN and Pyramid workstations and utilized in Proteon and Cisco's gateway products.

DOCUMENTATION:

Fully documented vendor product

CPU:

Sun Microsystems and Pyramid Technologies

O/S:

UNIX System V and UNIX 4.2 BSD. Sun device drivers available public domain from SRI.

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

3.2.9. ACC ACP 625

PRODUCT-OR-PACKAGE-NAME: ACP 625

DESCRIPTION:

This is a full-duplex DMA communication interface which attaches a PDP-11 or VAX to a DDN PSN supporting Basic Mode X.25. The ACC implementation is in conformance at link level to FED-STD-1041, FIPS-PUB 100 and at packet level to DDN X.25 Host Interface Specification, December 1983 for Basic Mode X.25 operation.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

O/S:

UNIX 4.2 and 4.3 BSD, VAX/VMS (supported by The Wollongong Group and Internet Systems)

CPU:

DEC PDP-11 and VAX-11 systems

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.2.10. ACC ACP 6250

PRODUCT-OR-PACKAGE NAME: ACP 6250

DESCRIPTION:

This is a full-duplex DMA communication front-end, utilizing 68000 microprocessor technology, which attaches a VAX to a DDN PSN capable of supporting data rates in excess of 64 Kbps. The ACC implementation is in conformance at the link level to FED-STD-1041, FIPS-PUB 100 and at packet level to DDN X.25 Host Interface Specification, December 1983.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

CPU:

68000 for board, VAX-11 for host

O/S:

UNIX 4.2 and 4.3 BSD, ULTRIX 1.1 and 1.2, VAX/VMS (supported by The Wollongong Group, Internet Systems, and Network Research Corp.)

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.2.11. ACC ACP 5250

PRODUCT-OR-PACKAGE NAME: ACP 5250

DESCRIPTION:

This is a full-duplex DMA communication front end, utilizing 68000 microprocessor technology, which attaches a MicroVAX to a DDN PSN, and is capable of supporting data rates in excess of 64 Kbps. The ACC implementation is in conformance at link level to FED-STD-1041, FIPS PUB 100 and at packet level to DDN X.25 Host Interface Specification, Dec. 1983.

DOCUMENTATION:

Fully documented vendor product

CPU:

68000 for board and MicroVAX for host

O/S:

ULTRIX 1.1 and 1.2, and MicroVMS (supported by The Wollongong Group, Internet Systems, and Network Research Corp.)

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.2.12. ACC ACS 1030

PRODUCT-OR-PACKAGE-NAME: ACS 1030

DESCRIPTION:

The ACS 1030 is a stand-alone communications system that allows standard IBM SNA devices to access the DDN, in a totally transparent manner. Connecting to existing line sets on IBM 37x5 front-end processors (or compatible) at the host site(s), and to the RS232 port on a remote device (e.g. 3274), the ACS 1030 permits the replacement of existing leased line communications facilities with the DDN. TCP/IP is fully supported and is implemented in sub-system firmware. The ACC implementation is in conformance at link level to FED-STD-1041, FIPS PUB 100 and at packet level to DDN X.25 Host Interface Specification, Dec. 1983. Network and host data rates supported are in excess of 64 Kbps.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager, Government Systems
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.2.13. ACC ACS 9310

PRODUCT-OR-PACKAGE-NAME: ACS 9310

DESCRIPTION:

The ACS 9310 provides a full-service interface between an IBM MVS or VM host and an Ethernet or IEEE 802.3 Local Area Network. Its hardware and software subsystems connect the IBM block multiplexer channel to a 10-megabit-per-second Ethernet or 802.3 LAN. The ACS 9310 maximizes throughput with its modular design utilizing a high-speed bus and 68000 microprocessor technology. The hardware interface is a front-end processor that performs the necessary protocol functions and interfaces to host-resident software sub-system implementing the high-level TCP/IP protocols. These software modules can be either the ACCES/MVS package for MVS systems, or the IBM VM Interface Program for TCP/IP.

CPU:

IBM-370, 43xx, 30xx, and any IBM-compatible machine which supports a FIPS-60 channel interface

O/S:

MVS - ACC's ACCES/MVS package

VM - IBM's VM Interface Program for TCP/IP (5798-DRG)

IMPLEMENTATION-LANGUAGE:

C

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

DISTRIBUTOR:

ACC (Advanced Computer Communications)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical Marketing: Jim Thrower, IBM Product Manager, (805) 963-9431

ORDERING-PROCEDURE:

Vendor product; contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

INFORMATION-UPDATED:

August 1986

3.2.14. ACC ACP 2250

PRODUCT-OR-PACKAGE-NAME: ACP 2250

DESCRIPTION:

This is a full-duplex communication front-end, utilizing 68000 microprocessor technology which attaches a AT&T 3B2 computer to a DDN PSN supporting Standard Mode X.25. The ACC implementation is in conformance at the link level to FED-STD-1041, FIPS PUB 100 and at the packet level to the DDN Host Interface Specification, Dec 1983. By using DMA data transfers directly across the 3B2 I/O bus and off-host protocol processing the ACP 2250 yields dramatic savings in host CPU loading.

When combined with hosts communication utilities such as the WIN/3B TCP/IP software package, the ACP 2250 provides a complete solution for 3B2 communication across the DDN.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

CPU:

68000 Processor for the ACP 2250. Interfaces directly to the 3B2 INPUT/OUTPUT Bus.

O/S:

UNIX System 5, release 3.x ("Streams")

DISTRIBUTOR:

AT&T Technologies
Federal Systems
Guilford Center
P.O. Box 25000
Greensboro, NC 27420

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager
(805) 963-9431

ORDERING-PROCEDURE:

Marketed exclusively by AT&T Federal Systems and the AT&T Group of Companies

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Certified for DDN X.25 Standard Mode at 64Kbps

INFORMATION-UPDATED:

May 1987

3.2.15. ACC ACS 4020

PRODUCT-OR-PACKAGE-NAME: ACS 4020 DDN Transparent Gateway

DESCRIPTION:

The ACS 4020 is a standalone communications system which enables Ethernet hosts supporting the DoD standard Internet Protocol (IP) to communicate with users on the Defense Data Network (DDN), ARPAnet, NSFnet, or compatible networks. The ACS 4020 provides this access in a manner which is transparent to the hosts it is serving, without the need for complex routing protocols.

The ACS 4020 allows all systems attached to the LAN to share a single physical port on the DDN Packet-Switch Node (PSN). In effect, the ACS 4020 is a DDN "port expander" enabling the Ethernet to appear as part of the Internet environment. Multiple ACS 4020's can also be used to provide load-leveling and redundancy over the DDN.

DOCUMENTATION:

Fully documented vendor product; descriptive literature available

CPU:

Multiple 68000 Processors are used to optimize network connectivity.

O/S:

Proprietary Multi-tasking/processing executive

DISTRIBUTOR:

Advanced Computer Communications (ACC)
720 Santa Barbara Street
Santa Barbara, CA 93101

CONTACT:

Technical:
Gary Krall, (gary@acc-sb-unix.arpa)
Program Manager
(805) 963-9431

ORDERING-PROCEDURE:

Vendor product--contact sales department

PROPRIETY-STATUS:

Proprietary product of ACC

DDN-QUALIFIED:

Certified for DDN X.25 Standard Mode at 64Kbps

INFORMATION-UPDATED:

May 1987

3.3. Apple

3.3.1. Kinetics AppleTalk-Ethernet Gateway

PRODUCT-OR-PACKAGE-NAME: Kinetics FastPath/Standalone (KFPS)

DESCRIPTION:

The Kinetics FastPath/Standalone (KFPS) is a programmable AppleTalk-to-Ethernet gateway. Current gateway programs include AppleTalk protocols and IP protocols. The latter program is compatible with the Stanford SEAGATE gateway. In the IP version, IP packets originating from the Macintosh and encapsulated within AppleTalk protocols are decapsulated at the KFPS and routed using IP routing. Appletalk protocols originating from a Macintosh are encapsulated in IP protocols and routed to the destination, where they are decapsulated.

The KFPS is packaged in a 5.5" x 9.0" case, which contains power supply, a main logic board (Motorola 68008 CPU, Intel 82586 Ethernet chip, Zilog 8530 Serial Controller chip), a piggyback memory board (48K static RAM standard, expandable to 112K; 8K PROM standard, expandable to 128K), and a battery to backup the program and data in RAM.

Each KFPS is delivered with a Macintosh disk which contains both gateway program versions, and a configuration program which may be used to set network parameters and to download then gateway program to the KFPS. Kinetics will supply KFGPS users with a copy of MacIP, the Macintosh application package from CMU which includes MacTELNET and MacTFTP. Kinetics will also supply the source code for the SEAGATE-compatible IP gateway program.

The External File system (EFS), developed by Lucasfilm and Stanford and available as part of the SEAGATE code package, may also run through the KFPS IP gateway program. EFS allows files stored in UNIX directory to appear on a Macintosh desktop and accessed by the Macintosh Finder.

DOCUMENTATION:

Kinetics' products are described in a 12-page Product Catalog and Price list. KFPS is shipped with a User Manual which describes its operation and its configuration within both AppleTalk and IP networks. Instructions for IP addressing and MacIP are also included.

CPU:

Motorola 68008

O/S:

Proprietary

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Kinetics, Inc.
2500 Camino Diablo, Suite 110
Walnut Creek, CA 94596
(415) 947-0998

CONTACT:

Sandy Sanderson, (415) 947-0998

ORDERING-PROCEDURE:

Contact Kinetics

PROPRIETY-STATUS:

KFPS and the AppleTalk gateway program are proprietary products of Kinetics, Inc. The IP gateway program contains code copyrighted by Stanford and Kinetics; it may be used, but not sold without permission. MacIP is Copyright 1985 (Carnegie-Mellon University); 1983, 1984 (Massachusetts Institute of Technology); and 1984 (Mark Sherman).

INFORMATION-UPDATED:

May 1986

3.4. Apollo

3.4.1. Apollo Ethernet Gateway

PRODUCT-OR-PACKAGE-NAME: Apollo Ethernet Gateway

DESCRIPTION:

This is an intelligent hardware controller which mounts in the server processor (DSP80A) or Multibus interfaces on other computational nodes. Includes cable, transceiver and full TCP/IP access protocol.

DOCUMENTATION:

TCP/IP Reference Manual

CPU:

Runs on Apollo DOMAIN systems (68020 based)

O/S:

UNIX 4.2 BSD, System V and AEGIS O/S

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Apollo Computer, Inc.
4301 Great America Parkway
4th Floor
Santa Clara, CA 95054
(408) 496-2900

CONTACT:

Nearest Apollo Sales Office or (617) 256-6600

ORDERING-PROCEDURE:

Contact nearest Apollo Sales Office or (617) 256-6600

PROPRIETY-STATUS:

Public Domain

INFORMATION-UPDATED:

February 1986

3.5. Aydin Monitor Systems

3.5.1. Aydin Mini TAC

PRODUCT-OR-PACKAGE-NAME: Mini Terminal Access Controller Model 4200

DESCRIPTION:

The Mini-TAC is on of several models in Aydin's NIU product family. It provides a convenient way to interface subscribers terminals to the DDN. Its 16 subscriber ports can be individually configured for any combination of synchronous or asynchronous terminals. The Mini-TAC's User TELNET, a compatibility protocol, transforms a diversity of asynchronous conventions into a single, standard format. This format is acceptable to all DDN access controllers that support asynchronous hosts and terminals.

Synchronous ports emulate an IBM host for terminals that conform to the IBM 327x Display System Protocols. The Mini-TAC supports concurrent network connections for up to sixtyfour 3270-type terminals (through up to 16 327x controllers). A 3270 terminal, operating in its normal BISYNC mode, can be used to talk to remote asynchronous hosts.

DOCUMENTATION:

Manuals available

CPU:

Multiple (4) 68010 Processors

O/S:

AMOS (Aydin Micro Operating System)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Aydin Monitor Systems
502 Office Center Drive
Ft. Washington, PA 19034

CONTACT:

Michael J. Alford, V.P., Marketing, (215) 646-8100

ORDERING-PROCEDURE:

Contact Aydin

PROPRIETY-STATUS:

Contains some proprietary software

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1986

3.5.2. Aydin HDEP

PRODUCT-OR-PACKAGE-NAME: Host Front End Processor Model 4210

DESCRIPTION:

Aydin's HFEP confers DDN compatibility on larger mainframe hosts. It enables the host to communicate with distant terminals and other hosts at host-to-HFEP burst rates up to 300 Kbps. In order to work with the HFEP, the host must incorporate a front end software package: "WWMCCS Host-to-Front-End Protocol Specification, Version 1.0." The combination of this package and the HFEP itself offers powerful host-to-host data transfer capabilities while keeping the DDN and HFEP itself transparent to the host's users and applications programs.

The HFEP furnishes two high speed synchronous interfaces: both may go to the same host, or two independent hosts can be supported. Bursts of data up to 1000 characters (bytes) long can be processed to and from the hosts at the maximum bit rate.

DOCUMENTATION:

Manuals available

CPU:

Multiple (4) 68010 Processors

O/S:

AMOS (Aydin Micro Operating System)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Aydin Monitor Systems
502 Office Center Drive
Ft. Washington, PA 19034

CONTACT:

Michael J. Alford, V.P., Marketing, (215) 646-8100

ORDERING-PROCEDURE:

Contact Aydin

PROPRIETY-STATUS:

Contains some proprietary software

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1986

3.5.3. Aydin TEP

PRODUCT-OR-PACKAGE-NAME: Terminal Emulation Processor Model 4220

DESCRIPTION:

Aydin's TEP is the compliment of the Aydin Mini-TAC. The TEP provides a vehicle for interfacing subscriber hosts to the DDN. To a host computer, each port on the TEP looks and acts like a terminal. The TEP's 16 ports can be individually configured for any combination of synchronous or asynchronous hosts. The host needs no additional software or hardware: by emulating the distant terminal, the TEP makes itself and the DDN completely transparent. The TEP's Server TELNET, a compatibility protocol, transforms a diversity of asynchronous conventions into a single, standard format. This format complements the Mini-TAC's User TELNET. When operating with an IBM hosts, the TEP emulates an IBM 327x controller. The TEP responds negatively to the host's general poll until receipt of a terminal service request message from a distant Mini-TAC. Only then is an end-to-end connection established.

DOCUMENTATION:

Manuals available

CPU:

Multiple (4) 68010 Processors

O/S:

AMOS (Aydin Micro Operating System)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Aydin Monitor Systems
502 Office Center Drive
Ft. Washington, PA 19034

CONTACT:

Michael J. Alford, V.P., Marketing, (215) 646-8100

ORDERING-PROCEDURE:

Contact Aydin

PROPRIETY-STATUS:

Contains some proprietary software

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1986

3.6. Bolt Beranek and Newman

3.6.1. BBN-C/30

PRODUCT-OR-PACKAGE-NAME: BBN-C/30

DESCRIPTION:

The Terminal Access Controller (TAC) is a user Telnet host that supports the TCP/IP host-to-host protocols. It runs in a 64K C/30 computer. It supports up to 63 terminal ports, and connects to a network via an 1822 or HDH host interface. The TAC TCP/IP conforms with RFC791 and RFC793 specifications with the following exceptions:

- IP options are accepted but ignored.
- All TCP options except maximum segment size are not accepted.
- Precedence, security, etc. are ignored. The TAC also supports Packet core, TAC Monitoring, Internet Control Message Protocol (ICMP), and a subset of the Gateway-Gateway protocols.

For more information on the TAC's design, see IEN-166. All major features have been implemented except Class B and C addressing, IP reassembly, and TCP Urgent handling. These will be done in the near future.

DISTRIBUTOR:

BBN Commuunications
150 Cambridge Park Drive
Cambridge, MA 02238

CONTACT:

Phil Suomu, (Psuomu@ccb.bbn.com), (617) 497-2502

INFORMATION-UPDATED:

August 1987

3.7. Bridge Communications

3.7.1. Bridge CS/1

PRODUCT-OR-PACKAGE-NAME: The Communications Server 1 (CS/1)

DESCRIPTION:

Bridge's CS/1 server with TCP/IP software performs the function of a terminal or host server, allowing up to 32 asynchronous devices (e.g., terminals, printers, computers) to access host computers that support TCP/IP and are attached to an Ethernet LAN. The CS/1 also supports the User Datagram Protocol (UDP) and the Ethernet Address Resolution Protocol (ARP). Bridge Communications also offers gateway servers which interface the CS/1 to broadband networks and the IBM SDLC world.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Bridge Communications, Inc.
2801 Stierlin Road
Mountain View, CA 94043

CONTACT:

Douglas W. Tsui, (415) 969-4400

PROPRIETY-STATUS:

Product of Bridge Communications, Inc.

INFORMATION-UPDATED:

February 1986

3.7.2. Bridge CS/100

PRODUCT-OR-PACKAGE-NAME: The Communications Server 100 (CS/100)

DESCRIPTION:

Bridge's CS/100 server with TCP/IP software performs the function of a terminal or host server, allowing up to 14 asynchronous devices (e.g., terminals, printers, computers) to access host computers that support TCP/IP and are attached to an Ethernet LAN. The CS/100 also supports the User Datagram Protocol (UDP) and the Ethernet Address Resolution Protocol (ARP). Bridge Communications also offers gateway servers which interface the CS/100 to broadband networks and the IBM SDLC world.

IMPLEMENTATION - LANGUAGE:

C

DISTRIBUTOR:

Bridge Communications, Inc.
2801 Stierlin Road
Mountain View, CA 94043

CONTACT:

Douglas W. Tsui, (415) 969-4400

PROPRIETY-STATUS:

Product of Bridge Communications, Inc.

INFORMATION-UPDATED:

February 1986

3.7.3. Bridge GS/3

PRODUCT-OR-PACKAGE-NAME: The Gateway Server 3 (GS/3)

DESCRIPTION:

Bridge's GS/3 server with TCP/IP software interconnects physically isolated Ethernet segments over multiple point to-point communication links. It supports up to four synchronous communications lines with data rates up to 64K bps each. As an internetwork router, the GS/3 uses the Internet Protocol (IP) to route packets across networks. It is compatible with Bridge's comprehensive TCP/IP line of communications, gateway, and network control servers.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Bridge Communications, Inc.
2801 Stierlin Road
Mountain View, CA 94043

CONTACT:

Douglas W. Tsui, (415) 969-4400

PROPRIETY-STATUS:

Product of Bridge Communications, Inc.

INFORMATION-UPDATED:

February 1986

3.7.4. Bridge GS/6

PRODUCT-OR-PACKAGE-NAME: The Gateway Server 6 (GS/6)

DESCRIPTION:

Bridge's GS/6 server with TCP/IP software interconnects an Ethernet segment to the broadband backbone trunk. As many as 255 Ethernet TCP/IP networks can be supported over a single 6 Mhz broadband channel using GS/6s Carrier Sense Multiple Access (CSMA) mechanism. As an internetwork router, the GS/6 uses the Internet Protocol (IP) to route packets across networks. It is compatible with Bridge's comprehensive TCP/IP line of communications, gateway, and network control servers.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Bridge Communications, Inc.
2801 Stierlin Road
Mountain View, CA 94043

CONTACT:

Douglas W. Tsui, (415) 969-4400

PROPRIETY-STATUS:

Product of Bridge Communications, Inc.

INFORMATION-UPDATED:

February 1986

3.7.5. Bridge CS/1-SNA

PRODUCT-OR-PACKAGE-NAME: The Communications Server 1-SNA (CS/1-SNA)

DESCRIPTION:

Bridge's CS/1-SNA server with TCP/IP software supports one synchronous SDLC port to an IBM communications controller with a maximum of 24 LU-to-LU sessions. It provides a connection service between a wide variety of non-IBM terminals, workstations, and an IBM host running Systems Network Architecture (SNA) protocol. The CS/1-SNA is compatible with Bridge's comprehensive TCP/IP line of communications, gateway, and network control servers.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Bridge Communications, Inc.
2801 Stierlin Road
Mountain View, CA 94043

CONTACT:

Douglas W. Tsui, (415) 969-4400

PROPRIETY-STATUS:

Product of Bridge Communications, Inc.

INFORMATION-UPDATED:

February 1986

3.7.6. Bridge NCS/150

PRODUCT-OR-PACKAGE-NAME: The Network Control Server 150 (NCS/150)

DESCRIPTION:

Bridge's NCS/150 server with TCP/IP software provides a complete continuous record of all network activity at the session level. It is a network management server that allows configuration control, monitoring, bootloading, and centralized control of local area network resources. The NCS/150 is designed to support up to 40 Bridge Communications Servers on a single network or multiple networks interconnected by Gateway Servers.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Bridge Communications, Inc.
2801 Stierlin Road
Mountain View, CA 94043

CONTACT:

Douglas W. Tsui, (415) 969-4400

PROPRIETY-STATUS:

Product of Bridge Communications, Inc.

INFORMATION-UPDATED:

February 1986

3.8. Chi Corporation

3.8.1. ChiLAN PC Terminal and Host Uniscope Servers

PRODUCT-OR-PACKAGE-NAME: ChiLAN PC Terminal and Host Uniscope Servers

DESCRIPTION:

These products, used in conjunction with a TCP/IP board, permit UTS terminals to communicate over a TCP/IP network with a Sperry host. The products, which each consist of the Chi CS-1 intelligent communications board and portions of the ChiLAN PC Uniscope Server software, maximize network throughput by localizing polling activity. Up to 16 Sperry UTS terminals can be connected through a T-MUX to the ChiLAN PC Terminal Uniscope Server. This server polls the attached terminals and only passes actual traffic over the network to the ChiLAN PC Terminal Uniscope Server. The host server, which appears to the host to be a Sperry Terminal Multiplexer with several terminals attached, has terminal sessions established with the Sperry host. This server creates a virtual network of Uniscope and UTS terminals. Since the host polls the server, the network is relieved of this communications activity. Chi's Uniscope handler uses a NetBIOS interface or a TCP session for establishing a session on an Ethernet-TCP/IP network. For access to the DDN, a TCP session must be used.

DOCUMENTATION:

Technical manual provided with product; descriptive literature available

CPU:

Any IBM PC compatible

O/S:

DOS 2.11 or higher

IMPLEMENTATION-LANGUAGE:

C and assembler

DISTRIBUTOR:

Chi Corporation
26055 Emery Road
Cleveland, OH 44128

CONTACT:

Sales Coordinator, (216) 831-2622

ORDERING-PROCEDURE:

Contact Chi Corporation

PROPRIETY-STATUS:

Proprietary product of Chi Corporation

INFORMATION-UPDATED:

July 1987

3.9. CISCO

3.9.1. CISCO FEP3270

PRODUCT-OR-PACKAGE-NAME: FEP3270

DESCRIPTION:

Communications Interface Solutions Company (CISCO) builds and supports products that extend the Defense Data Network (DDN). The CISCO TAC3270, FEP3270 and HFS interconnect IBM 3270 or compatible SNA/SDLC or BSC terminal controllers and devices to IBM or PCM MVS-VTAM computer systems on the DDN providing native mode terminal operation (3270 Data Stream) with the host and the full set of DDN protocols. CISCO also provides products that connect IEEE 802.3 Local Area Networks with IBM MVS systems and the DDN. These products are TCP/IP based and are interrelated.

FEP3270 models connect IBM or plug compatible MVS-ACF/VTAM host computers to the DDN and/or IEEE 802.3 LANs. The FEP3270 is a Front-End Processor communications control unit (FEP) that appears to MVS as a 3274 channel attached terminal control unit. Thus it can readily co-exist with other vendors FEPs or other CISCO FEPs on the host computer. The FEP3270 has full TCP/IP capability which is used in support of DDN protocols and the 3270 native mode protocols. The FEP3270 provides native mode 3270 terminals direct connection to the host via ACF/VTAM as 3270 Display Stations or Printers and DDN Full Service users connection to those facilities on the host managed through CISCO's HFS (thru SAPI).

FEP3270 Product Summary:

The FEP3270 is a data communications front end processor that connects to an IBM or PCM (Plug Compatible Manufacturer) MVS ACF/VTAM computer system via an IBM or PCM Block Multiplexer Channel utilizing one subchannel address of that channel. It connects to the DDN via an RS-449/422 or RS-232-C interface utilizing X.25 Standard and TCP/IP Protocols. The FEP3270 has a power switch, a reset switch, nine indicator lights, two Asynchronous ASCII Maintenance Ports (RS-232-C) and a four foot 110 volt power cord with a three pronged (grounded) plug.

The FEP3270 hardware is built on a Multibus (IEEE 796 BUS) structure utilizing Motorola 68000 technology. Two single board computers are utilized with an IBM channel interface board as the core of each FEP3270 model. Additional boards and interfaces are added to provide the different models.

There are different models of the FEP3270:

- FEP3270-10 provides one DDN interface using RS-449/422 at 56 Kbps.
- FEP3270-10C provides one DDN interface using RS-232-C (up to 19.2 Kbps) externally clocked.
- FEP3270-40 provides four DDN interfaces using RS-449/422 at 56 Kbps (RPQ product, earliest availability expected to be second quarter 1987).
- FEP3270-11 provides one DDN interface using RS-449/422 at 56 Kbps and one Local Area Network (LAN) interface utilizing the IEEE 802.3 standard (RPQ product, earliest availability expected to be January 1987).
- FEP3270-11C provides one DDN interface using RS-232-C (up to 19.2 Kbps) externally clocked and one Local Area Network (LAN) interface utilizing the IEEE 802.3 standard (RPQ product, earliest availability expected to be January 1987).
- FEP3270-31 provides three DDN interfaces using RS-449/422 at 56 Kbps and one LAN interface utilizing the IEEE 802.3 standard (RPQ product, earliest availability expected to be second quarter 1987).

Note: RPQ (Request for Price Quote) products prices and delivery are quoted upon request. Availability is not immediate.

DOCUMENTATION:

3270 DDN Products Structure and Operation

FEP3270 Installation and Repair Guide

FEP3270 Operation and Problem Determination

FEP3270 Installation and Repair Guide

CPU:

The FEP and TAC CISCO products are Motorola 68000 based and are coupled with CISCO hardware for interfacing to the DDN and other media.

O/S:

The FEP and TAC CISCO products are CISCO RTOS based. RTOS is a CISCO proprietary operating system.

IMPLEMENTATION-LANGUAGE:

Predominantly C, some assembly

DISTRIBUTOR:

CISCO
9067 Shady Grove Ct.
Gaithersburg, MD 20877
(301) 921-8800

CONTACT:

Jon D. Weston, (301) 921-8800

ORDERING-PROCEDURE:

Call for details

PROPRIETY-STATUS:

All Products CISCO Proprietary

INFORMATION-UPDATED:

June 1986

3.9.2. CISCO TAC3270

PRODUCT-OR-PACKAGE-NAME: TAC3270

DESCRIPTION:

Communications Interface Solutions Company (CISCO) builds and supports products that extend the Defense Data Network (DDN). The CISCO TAC3270, FEP3270 and HFS interconnect IBM 3270 or compatible SNA/SDLC or BSC terminal controllers and devices to IBM or PCM MVS-VTAM computer systems on the DDN providing native mode terminal operation (3270 Data Stream) with the host and the full set of DDN protocols. CISCO also provides products that connect IEEE 802.3 Local Area Networks with IBM MVS systems and the DDN. These products are TCP/IP based and are interrelated.

TAC3270 models connect IBM 3270 or compatible terminal control units and devices (Display Stations and Printers) to the DDN. It is a terminal access controller (TAC) that provides support for 3270 control units and terminals as native mode devices connecting across the DDN (using TCP/IP) to any FEP3270 at the host or as a Telnet Network Virtual Terminal (NVT) for access to any DDN host computer supporting Telnet NVT.

TAC3270 Product Summary:

The TAC3270 is a data communications concentrator for use on the DDN (or directly attached to an IEEE 802.3 Baseband LAN). Up to 128 terminal devices can be connected to the TAC3270 via IBM 3270 terminal control units attached to the the six Terminal Ports. These ports support point-to-point or multidrop configurations at speeds up to 19.2 Kbps each using either SDLC or BSC protocols on an RS-232-C interface. It connects to the DDN via an RS-449/422 or RS-232-C interface utilizing X.25 Standard and TCP/IP Protocols. The TAC3270 has a power switch, a reset switch, nine indicator lights, two Asynchronous ASCII Maintenance Ports (RS-232-C) and a four foot 110 volt power cord with a three pronged (grounded) plug.

The TAC3270 hardware is built on a Multibus (IEEE 796 BUS) structure utilizing Motorola 68000 technology. Two single board computers are utilized with an port extension card as the core of each TAC3270 model.

There are different models of the TAC3270:

- TAC3270-10 provides one DDN interface using RS-449/422 at 56 Kbps.
- TAC3270-10C provides one DDN interface using RS-232-C (up to 19.2 Kbps) externally clocked.
- TAC3270-01 provides one LAN interface using IEEE 802.3 standard Baseband connection via a Transceiver and 50 foot cable provided with the unit. (There is no DDN connection associated with this unit. This product is included for identification purposes mainly). It is a companion unit to the FEP802.3, FEP3270-11, FEP3270-11C and the FEP3270-31, all of which provide IBM host computer connection to an IEEE 802.3 Baseband LAN. This product is expected to be available in the 2nd quarter 1987.

DOCUMENTATION:

3270 DDN Products Structure and Operation

TAC3270 Installation and Repair Guide

TAC3270 Operation and Problem Determination Guide

CPU:

The FEP and TAC CISCO products are Motorola 68000 based and are coupled with CISCO hardware for interfacing to the DDN and other media.

O/S:

The FEP and TAC CISCO products are CISCO RTOS based. RTOS is a CISCO proprietary operating system.

IMPLEMENTATION-LANGUAGE:

Predominantly C, some assembly

DISTRIBUTOR:

CISCO
9067 Shady Grove Ct.
Gaithersburg, MD 20877
(301) 921-8800

CONTACT:

Jon D. Weston, (301) 921-8800

ORDERING-PROCEDURE:

Call for details

PROPRIETY-STATUS:

All Products CISCO Proprietary

INFORMATION-UPDATED:

June 1986

3.9.3. CISCO FEP802.3

PRODUCT-OR-PACKAGE-NAME: FEP802.3

DESCRIPTION:

Communications Interface Solutions Company (CISCO) builds and supports products that extend the Defense Data Network (DDN). The CISCO TAC3270, FEP3270 and HFS interconnect IBM 3270 or compatible SNA/SDLC or BSC terminal controllers and devices to IBM or PCM MVS-VTAM computer systems on the DDN providing native mode terminal operation (3270 Data Stream) with the host and the full set of DDN protocols. CISCO also provides products that connect IEEE 802.3 Local Area Networks with IBM MVS systems and the DDN. These products are TCP/IP based and are interrelated.

FEP802.3 connects IBM or PCM MVS ACF/VTAM host computers to an IEEE 802.3 Baseband LAN. It is a Front-End Processor (FEP) that appears to MVS as a 3274 channel attached terminal control unit. Thus it can readily co-exist with other FEPs on the host computer. The FEP802.3 provides TCP/IP access only to HFS. DDN Full Service Upper Layer Protocols are available through HFS.

FEP802.3 Product Summary:

The FEP802.3 is a Front-End Processor (FEP) that appears to an IBM MVS computer system as a 3274 channel attached terminal control unit. Thus it readily co-exists with other FEPs on the host computer. The FEP802.3 provides Local Area Network users (terminals and hosts) TCP/IP Full Service connection to those DDN Upper Layer Protocols on the MVS host managed by HFS.

The FEP802.3 connects to an IBM or PCM MVS computer system via an IBM Block Multiplexer Channel utilizing one subchannel of that channel. It connects to the Local Area Network via a CISCO provided IEEE 802.3 Baseband Transceiver attached to the FEP802.3 by a CISCO provided 50 foot cable. The FEP802.3 has a power switch, a reset switch, nine indicator lights, two Maintenance Ports (RS-232-C Asynchronous ASCII at 1200 bps) and a four foot, 110 volt power cord with a three pronged (grounded) plug.

The FEP802.3 hardware is built on a Multibus (IEEE 796 BUS) structure utilizing Motorola 68000 technology. Two single board computers are utilized with a LAN interface board as the core of each FEP802.3.

FEP3270, TAC3270 and FEP802.3 Software Summary:

The FEP3270, FEP802.3 and the TAC3270s have two software systems; the Maintenance Port Software (MPS) and the CISCO Network Control Program (CNCP). Both the MPS and the CNCP run in the Microbar SBCs. Both run utilizing a CISCO Proprietary operating system named RTOS that is contained in ROM on the Microbar SBCs. CISCO RTOS contains the X.25 Standard protocol and the IEEE 802.3 (802.2) protocol.

The Maintenance Port Software is contained in the ROMs of the Microbar SBC and provides the FEP3270 customer configurator, the CNCP software loader and the problem determination and programmer debugging tools available thru the Maintenance Port.

The CNCP is downline loaded from the host over the Block Multiplexer Channel on command from the host via HFS. CNCP contains the TCP/IP, SAPI, SNA Emulation, Native Mode Server and LAN interface capabilities of the FEP3270. The IMP Processor (one of the Single Board Computers) runs the TCP/IP, SAPI and LAN interface software. The SNA Emulation Processor (another of the Single Board Computers) runs the SAPI, SNA Emulation and Native Mode Server software. Part of the SNA Emulation portion of the CNCP is the cSNA3270 software licensed by CISCO from System Strategies, Inc. as part of their cSNA3270 software product.

The NOVRAM contains the configuration parameters regarding this equipment including its Internet Address, Equipment model and serial number, the LU configuration parameters for the SNA interface to the host, the DDN parameters for the operation of the DDN X.25 link and the password for the MPS as well as the equipment exception event log for problem determination.

The Maintenance Port Software (MPS) is run from the Maintenance Port. It contains the local configurator, a debugger, a statistics display, a memory display, a statistics gathering facility, a device driver interface for the Maintenance Port and a Telnet NVT interface for operation of MPS from remote sites over the DDN (via an NVT terminal or CISCO HFS TSO command). As there is with the Maintenance Port, this mode of operation of MPS is secured through a password mechanism so as to limit access to the MPS to authorized users.

The Local Configurator portion of the MPS (Maintenance Port Software) allows for the configuration of the DDN interface parameters (Internet Address of the unit, Message Length Maximum, etc.) and other software configuration parameters. The LU's for Displays and Printers are configurable for name and function.

The primary software to run the equipment is the CISCO Network Control Program (CNCP) which can be loaded from the MVS-VTAM host using the HFS Loader. The rest of the software is stored in Read Only Memory (ROM) in the unit. The CNCP is in NOVRAM and is only down-line loaded when a new version of the CNCP software is desired.

DOCUMENTATION:

FEP802.3 Installation and Repair Guide

FEP802.3 Operation and Problem Determination Guide

CPU:

The FEP and TAC CISCO products are Motorola 68000 based and are coupled with CISCO hardware for interfacing to the DDN and other media.

O/S:

The FEP and TAC CISCO products are CISCO RTOS based. RTOS is a CISCO proprietary operating system.

IMPLEMENTATION-LANGUAGE:

Predominantly C, some assembly

DISTRIBUTOR:

CISCO
9067 Shady Grove Ct.
Gaithersburg, MD 20877
(301) 921-8800

CONTACT:

Jon D. Weston, (301) 921-8800

ORDERING-PROCEDURE:

Call for details

PROPRIETY-STATUS:

All Products CISCO Proprietary

INFORMATION-UPDATED:

June 1986

3.9.4. CISCO FEPCTCA

PRODUCT-OR-PACKAGE-NAME: FEPCTCA

DESCRIPTION:

Communications Interface Solutions Company (CISCO) builds and supports products that extend the Defense Data Network (DDN). The CISCO TAC3270, FEP3270 and HFS interconnect IBM 3270 or compatible SNA/SDLC or BSC terminal controllers and devices to IBM or PCM MVS-VTAM computer systems on the DDN providing native mode terminal operation (3270 Data Stream) with the host and the full set of DDN protocols. CISCO also provides products that connect IEEE 802.3 Local Area Networks with IBM MVS systems and the DDN. These products are TCP/IP based and are interrelated.

FEPCTCA - This Request for Price Quote (RPQ) product provides up to 16 Channel To Channel Adapter (CTCA) connections between IBM or PCM MVS hosts connected across the DDN via FEPCTCAs. The appearance to MVS is the same as a CTCA with each distant host utilizing one subchannel address on the Block Multiplexer Channel connection to the FEPCTCA. This product allows the operation of MSNF over the DDN.

This product is not expected to be released before June 1987.

DISTRIBUTOR:

CISCO
9067 Shady Grove Ct.
Gaithersburg, MD 20877
(301) 921-8800

CONTACT:

Jon D. Weston, (301) 921-8800

ORDERING-PROCEDURE:

Call for details

PROPRIETY-STATUS:

All Products CISCO Proprietary

INFORMATION-UPDATED:

June 1986

3.10. cisco Systems

3.10.1. cisco Systems ASM Communication Servers

PRODUCT-OR-PACKAGE-NAME: ASM Communications Servers

DESCRIPTION:

The ASM family of communications servers are TCP/IP based devices for the attachment of ordinary RS232 devices to a TCP network. The most common application is the attachment of terminals, PCs and modems to an Ethernet. The device can support up to 80 lines and 2 parallel printers. Full domain naming is supported as well as IEN-116. The ASM can be configured as a TAC replacement with an 1822DH interface.

DOCUMENTATION:

User/Administrator/Configuration Guide

CPU:

ASM (68K based)

O/S:

ASM operating software

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

cisco Systems
Box 475
Menlo Park, CA 94026-0475
(415) 326-1941

CONTACT:

S. Lerner, (415) 326-1941

ORDERING-PROCEDURE:

State number of lines and interfaces required; wide configuration flexibility

PROPRIETY-STATUS:

cisco Systems

INFORMATION-UPDATED:

June 1986

3.10.2. cisco Systems Gateways

PRODUCT-OR-PACKAGE-NAME: AGS Family Gateways

DESCRIPTION:

The AGS family of gateways are IP/TCP gateways linking multiple IP networks. The gateways can operate as interior or exterior gateways for multiple networks of differing subnetting. Protocols: IP/ICMP, TCP/Telnet (used for remote maintenance), UDP/TFTP, UDP/Time, ARP (including proxy ARP), RARP, UDP/BOOTP, 1822 IMP-Host, EGP, IGRP (dynamic multipath routing on an general graph, currently proprietary). Not all configurations come with all protocols. Media: 10MB Ethernet, 1822-DH, HDLC serial.

DOCUMENTATION:

Administrator/Configuration guide

CPU:

AGS (68K)

O/S:

AGS operating software

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

cisco Systems
Box 475
Menlo Park, CA 94026-0475
(415) 326-1941

CONTACT:

S. Lerner, (415) 326-1941

ORDERING-PROCEDURE:

State number and types of interfaces required and the service (interior, exterior, combined) needed; up to 4 ethernets, 4 HDLC lines, 2 1822-DH.

PROPRIETY-STATUS:

cisco Systems

INFORMATION-UPDATED:

June 1986

3.11. Communication Machinery Corporation

3.11.1. CMC-DRN-3200

PRODUCT-OR-PACKAGE-NAME: CMC DRN-3200 Ethernet to DDN Gateway

DESCRIPTION:

The CMC DRN-3200 DDN/Ethernet Gateway is a high performance network node which gives Ethernet-TCP/IP users access to the resources of the Defense Data Network (DDN), ARPAnet, or compatible networks. Messages from either DDN or Ethernet are sent to the DRN-3200, which reformats the communication for transmission over the other network. The Exterior Gateway Protocol (EGP) maintains routing tables and communicates with other known gateways to manage routing information. The Internet Protocol uses the routing tables to determine the next stop on the way to the message's final destination.

DOCUMENTATION:

DRN-3200 User's Guide

DISTRIBUTOR:

Communication Machinery Corporation
1421 State Street
Santa Barbara, CA 93101

CONTACT:

Sales Support, 1-800-CMC-8023 or 805-963-9471

ORDERING-PROCEDURE:

Contact CMC

PROPRIETY-STATUS:

CMC Proprietary

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1987

3.11.2. v CMC LanScan DRN-1700

PRODUCT-OR-PACKAGE-NAME: DRN-1700 LanScan Ethernet Monitor

DESCRIPTION:

The CMC DRN-1700 LanScan Ethernet Monitor (known as "SpiderMonitor" in Europe) is a standalone system which can be used to monitor network usage and locate networking faults. LanScan conforms to the IEEE 802.3 standard for Ethernet and has built-in decoders for the TCP/IP, XNS, and ISO protocols. Network performance can be monitored both on a single machine basis and on the total network. These data are presented numerically and in bar-graph format. Counts of all packets sent and received, together with byte-counts, are maintained continuously for each machine on the network. Of special interest are the statistics on bad packets each station sends, as this is important for measuring networking system reliability. The LanScan will identify the location of cable faults (short or open circuit). It also test the network stations, singly or in groups, by routing test packets through the specified stations and highlighting any errors on the route. The LanScan monitor a sophisticated set of packet-tracing facilities by which network failures caused by incorrect protocol software are identified. The packets are displayed in the selected protocol format. Up to 192 KB of trace data can be held at any one time. The LanScan Ethernet Monitor is supplied complete with a video display screen and detachable keyboard. Users can get a hard copy of any statistics or trace information via the standard serial printer interface.

CPU:

80186

O/S:

Proprietary

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

In the US:

Communication Machinery Corporation
1421 State Street
Santa Barbara, CA 93101
(805) 963-9471

Europe:
Spider Systems Limited
65 Bonnington Road
Edinburgh
EH6 5JQ
Scotland
+44 (031) 554-9197

CONTACT:

Contact above

INFORMATION-UPDATED:

February 1987

3.12. Encore

3.12.1. Annex-UX

PRODUCT-OR-PACKAGE-NAME: Annex-UX

DESCRIPTION:

The Annex-UX is a terminal server for Ethernet that uses TCP/IP. It has 16 asynchronous serial ports and one parallel printer port. Each serial port can support an auto-answer modem. Both rlogin and telnet protocols are supported, and each port can have up to three virtual terminal connections. The IP implementation interprets both ICMP redirects and 4.2 route daemon messages.

The Annex-UX has been successfully tested with 4.2 and 4.3bsd UNIX. Planned enhancements during 1986 include IP subnet support, security features, and a editing front end capable of offloading standard Unix machines by handling simple editing operations within the Annex-UX.

DOCUMENTATION:

A two manual set is shipped with each Annex-UX. It consists of a Hardware Installation Guide and a Users Guide. A Network Administrators Guide is available for a nominal charge.

CPU:

National Semiconductor 32016

O/S:

Proprietary

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Call for local distributor

CONTACT:

Rich D'Angelo
Encore Computer Corporation
257 Cedar Hill Street
Marlboro, MA 01752
(617) 460-0500

ORDERING-PROCEDURE:

Contact factory

PROPRIETY-STATUS:

Proprietary

INFORMATION-UPDATED:

February 1986

3.13. Fibronics

3.13.1. K200

PRODUCT-OR-PACKAGE-NAME: K200

DESCRIPTION:

The K200 Ethernet controller provides a high-speed interface between an IBM 370, 30xx or PCM and the Ethernet local-area network. The K200 is a microprocessor driven control unit that attaches to IBM's block multiplexer channel using standard IBM bus and tag cables. K200 implements the physical and data link layers of the ISO/OSI Reference Model for network architecture and conforms to the specifications for Ethernet, version 1.0. Maximum throughput is in excess of 2.5 megabits per second.

DOCUMENTATION:

Available from vendor

CPU:

IBM 370, IBM 30xx, PCM

DISTRIBUTOR:

Fibronics International, Inc.
325 Stevens Street
Hyannis, MA 02601

CONTACT:

Hal Spurney, Marketing and Sales Manager, (617) 778-0700 or 800-LAN-KNET

PROPRIETY-STATUS:

Fibronics product

INFORMATION-UPDATED:

July 1986

3.14. Ford Aerospace & Communications Corporation

3.14.1. Ford Multinet Gateway

PRODUCT-OR-PACKAGE-NAME: Ford Multinet Gateway

DESCRIPTION:

The Ford Multinet Gateway development has been sponsored by the USAF Rome Air Development Center as a high performance multilevel secure communications gateway and is currently under evaluation by the Computer Security Center for A1 security status. The Multinet Gateway was designed to interconnect dissimilar networks and protocols using the DoD reference model for layered network architecture. The implementation supports IP, EGP, GGP, ICMP, X.25, 1822, HDH (message mode and packet mode) and HDLC. A LAN interface using IEEE 802/Ethernet will be available in the 4th quarter of 1986. The Multinet Gateway is available with end-to-end encryption. The DDN X.25 interface is certified at 56K BPS by Defense Communications Agency. The Man-Machine interface includes a terminal and a printer for control and statistics.

DOCUMENTATION:

Manuals and On-line documentation

CPU:

Ford Secure Network Access Processor (Z8000 based)

O/S:

Ford Secure Communications Support System

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Ford Aerospace & Communications Corporation
10440 State Highway 83
Colorado Springs, CO 80908

CONTACT:

Paul Cook, (apcook@ford-cos1.arpa), (303) 594-1140
Bob Tishman, (rtt@ford-cos2.arpa), (303) 594-1492

ORDERING-PROCEDURE:

Contact distribution center

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1986

3.15. Imagen

3.15.1. ImageServer 2308

PRODUCT-OR-PACKAGE-NAME: ImageServer XP Model 2308 TCP/IP Ethernet

DESCRIPTION:

All products in the ImageServer XP Series achieve true page throughput rates with its proprietary Real-Time Rasterization process which lets you print at full speed because processing and printing are handled simultaneously. All models in this series are compatible with a broad choice of interfaces including Ethernet, RS-423, IBM 3270 and 2780/3780, Centronics, Dataproducts and Versatec. IMAGEN offers a large selection of optional fonts on all products including Lucida, Lucida Sans, Helvetica, Times Roman, and Century Schoolbook.

The ImageServer XP Model 2308 8PPM 300 DPI laser printer includes a Canon LBP-CX print engine, an IMAGEN IP/II Image Processor, a single floppy disk drive and one 8 1/2 x 11" input cassette tray. The 2308 is available in 1, 2, and 3 Mbyte configurations with memory options to include up to 3 additional megabytes of RAM. An optional 20 Mbyte Winchester can be included to allow faster access of fonts and storage of forms or special document formats. The ImageServer XP Model 2308 desktop laser printer is IMAGEN's versatile entry level document processing system designed to meet the publishing needs of small work groups requiring high-quality printing of text and graphics.

DOCUMENTATION:

Available from vendor

CPU:

Motorola 68000, Multibus-based, proprietary hardware

O/S:

Proprietary, not user-programmable

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

IMAGEN Corporation
2650 San Thomas Expressway
Santa Clara, CA 95051
(408) 986-9400

CONTACT:

Sales: Roger McLean, Technical: John Lang

ORDERING-PROCEDURE:

Contact vendor for more information

PROPRIETY-STATUS:

IMAGEN proprietary

INFORMATION-UPDATED:

July 1986

3.15.2. ImageServer 3320

PRODUCT-OR-PACKAGE-NAME: ImageServer XP Model 3320 TCP/IP Ethernet

DESCRIPTION:

All products in the ImageServer XP Series achieve true page throughput rates with its proprietary Real-Time Rasterization process which lets you print at full speed because processing and printing are handled simultaneously. All models in this series are compatible with a broad choice of interfaces including Ethernet, RS-423, IBM 3270 and 2780/3780, Centronics, Dataproducts and Versatec. IMAGEN offers a large selection of optional fonts on all products including Lucida, Lucida Sans, Helvetica, Times Roman, and Century Schoolbook.

The ImageServer XP Model 3320 20PPM 300 DPI laser printer includes a Canon LBP-20 print engine, an IMAGEN IP/II Image Processor, a single floppy disk drive and two 8 1/2 x 11" input cassette trays. The 3320 is available in 2 or 3 Mbyte configurations with memory options to include up to 3 additional megabytes of RAM. An optional 20 Mbyte Winchester can be included to allow faster access of fonts and storage of forms or special document formats. The 3320 is driven by a page description language and can handle 11 x 17" paper format. This unit is perfect for use as a proofing device in CAE/CAD applications and for large volume document processing applications where high duty cycle, offset quality printing, and low cost of operation are important.

DOCUMENTATION:

Available from vendor

CPU:

Motorola 68000, Multibus-based, proprietary hardware

O/S:

Proprietary, not user-programmable

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

IMAGEN Corporation
2650 San Thomas Expressway
Santa Clara, CA 95051
(408) 986-9400

CONTACT:

Sales: Roger McLean
Technical: John Lang

ORDERING-PROCEDURE:

Contact vendor for more information

PROPRIETY-STATUS:

IMAGEN proprietary

INFORMATION-UPDATED:

July 1986

3.15.3. ImageServer 4324

PRODUCT-OR-PACKAGE-NAME: ImageServer XP Model 4324 TCP/IP Ethernet

DESCRIPTION:

All products in the ImageServer XP Series achieve true page throughput rates with its proprietary Real-Time Rasterization process which lets you print at full speed because processing and printing are handled simultaneously. All models in this series are compatible with a broad choice of interfaces including Ethernet, RS-423, IBM 3270 and 2780/3780, Centronics, Dataproducts and Versatec. IMAGEN offers a large selection of optional fonts on all products including Lucida, Lucida Sans, Helvetica, Times Roman, and Century Schoolbook.

The ImageServer XP Model 4324 24PPM 300 DPI laser printer includes a Xerox SP-24 print engine, an IMAGEN IP/II Image Processor, a single floppy disk drive and two 8 1/2 x 11" input cassette trays. The 4324 is available in 2 or 3 Mbyte configurations with memory options to include up to 3 additional megabytes of RAM. An optional 20 Mbyte Winchester can be included to allow faster access of fonts and storage of forms or special document formats. With superior paper management capabilities including 11 x 17" paper handling and offset stacking the 4324 is designed to meet the needs of work group document processing and CAE/CAD applications.

DOCUMENTATION:

Available from vendor

CPU:

Motorola 68000, Multibus-based, proprietary hardware

O/S:

Proprietary, not user-programmable

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

IMAGEN Corporation
2650 San Thomas Expressway
Santa Clara, CA 95051
(408) 986-9400

CONTACT:

Sales: Roger McLean
Technical: John Lang

ORDERING-PROCEDURE:

Contact vendor for more information

PROPRIETY-STATUS:

IMAGEN proprietary

INFORMATION-UPDATED:

July 1986

3.15.4. ImageServer 7320

PRODUCT-OR-PACKAGE-NAME: ImageServer XP Model 7320 TCP/IP Ethernet

DESCRIPTION:

All products in the ImageServer XP Series achieve true page throughput rates with its proprietary Real-Time Rasterization process which lets you print at full speed because processing and printing are handled simultaneously. All models in this series are compatible with a broad choice of interfaces including Ethernet, RS-423, IBM 3270 and 2780/3780, Centronics, Dataproducts and Versatec. IMAGEN offers a large selection of optional fonts on all products including Lucida, Lucida Sans, Helvetica, Times Roman, and Century Schoolbook.

The ImageServer XP Model 7320 20 PPM 300 DPI laser printer includes a Canon LBP-20 print engine with a duplexer unit, a large capacity input tray and dual offset stackers, an IMAGEN IP/II Image Processor, a single floppy disk drive, a serial interface, two 8 1/2 x 11" input cassettes, and a Raster Image Buffer that allows Real-Time Rasterization of the most complex graphics. The 7320 is available with 3 Mbytes of RAM with options to include up to 3 additional megabytes. An optional 20 Mbyte Winchester can be included to allow faster access of fonts and storage of forms or special document formats. The 7320 is the ideal production machine for large-volume document processing or for large-format CAE/CAD applications.

DOCUMENTATION:

Available from vendor

CPU:

Motorola 68000, Multibus-based, proprietary hardware

O/S:

Proprietary, not user-programmable

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

IMAGEN Corporation
2650 San Thomas Expressway
Santa Clara, CA 95051
(408) 986-9400

CONTACT:

Sales: Roger McLean
Technical: John Lang

ORDERING-PROCEDURE:

Contact vendor for more information

PROPRIETY-STATUS:

IMAGEN proprietary

INFORMATION-UPDATED:

July 1986

3.16. MICOM-Interlan

3.16.1. MICOM-Interlan TCP/IP

PRODUCT-OR-PACKAGE-NAME: MICOM-Interlan TCP/IP

DESCRIPTION:

This is a DoD TCP/IP implementation compatible the with 4.2 BSD TCP/IP implementation. Currently, a DEC VMS and MICRO VMS implementation is available. Other versions will be announced soon. This TCP/IP runs on the intelligent NP-series protocol/processors.

DOCUMENTATION:

Library calls, installation, guide to diagnostics, device drivers documentation and utilities are included.

CPU:

DEC VAX family and MicroVAX II; others will be announced in the near future

O/S:

VMS and MicroVMS

IMPLEMENTATION-LANGUAGE:

C-callable library; TCP/IP image in on-board

DISTRIBUTOR:

MICOM-Interlan
155 Swanson Road
Boxboro, MA 01719

CONTACT:

B. R. Finer, Product Manager, (617) 263-9929 or LAN Marketing/Sales at 1-800-LAN-TALK

ORDERING-PROCEDURE:

Contact LAN Marketing/Sales for nearest office on 1-800-LAN-TALK

PROPRIETY-STATUS:

MICOM-Interlan

INFORMATION-UPDATED:

January 1986

3.16.2. MICOM-Interlan NP-series Protocol Processors

PRODUCT-OR-PACKAGE-NAME: MICOM-Interlan NP-series Protocol Processors

DESCRIPTION:

Intelligent Ethernet interface boards that support both on-board (layers 1-4) and link-level protocol implementations.

DOCUMENTATION:

Diagnostics, installation, and user's manuals are included.

CPU:

DEC UNIBUS-based systems (NP100), DEC Q-bus based systems (NP200), MULTIBUS-based systems (NP300) and IBM-PC/AT based systems (NP600).

O/S:

Based on buses as described above, including VMS, MicroVMS, and MS-DOS

DISTRIBUTOR:

MICOM-Interlan
155 Swanson Road
Boxboro, MA 01719

CONTACT:

B. R. Finer, Product Manager, (617) 263-9929 or LAN Marketing/Sales at 1-800-LAN-TALK

ORDERING-PROCEDURE:

Contact LAN Marketing/Sales for nearest sales office at 1-800-LAN-TALK

PROPRIETY-STATUS:

MICOM-Interlan

INFORMATION-UPDATED:

January 1986

3.16.3. MICOM-Interlan-NI1010A

PRODUCT-OR-PACKAGE-NAME: MICOM-Interlan NI1010A

DESCRIPTION:

Link level Ethernet Controller board for Digital Equipment UNIBUS-based systems.

DOCUMENTATION:

User manual, installation instructions and diagnostics are included.

CPU:

UNIBUS-based systems such as VAX-11 and PDP-11

O/S:

TCP/IP software is available from various vendors (including Wollongong and with UNIX 4.2 BSD).

DISTRIBUTOR:

MICOM-Interlan
155 Swanson Road
Boxboro, MA 01719

CONTACT:

B. R. Finer, Product Manager, (617) 263-9929 or LAN Marketing/Sales at 1-800-LAN-TALK

ORDERING-PROCEDURE:

Contact LAN Marketing/Sales for nearest sales office on 1-800-LAN-TALK

PROPRIETY-STATUS:

MICOM-Interlan

INFORMATION-UPDATED:

January 1986

3.16.4. MICOM-Interlan NI5010A

PRODUCT-OR-PACKAGE-NAME: MICOM-Interlan NI5010A

DESCRIPTION:

Link level Ethernet Controller board for IBM-PC buses or equivalent.

DOCUMENTATION:

User's manual, installation instructions and diagnostics are included.

CPU:

IBM-PC/XT/AT or compatibles

O/S:

TCP/IP software is available from various vendors (MIT PC/IP) for this product.

DISTRIBUTOR:

MICOM-Interlan
155 Swanson Road
Boxboro, MA 01719

CONTACT:

B. R. Finer, Product Manager, (617) 263-9929 or LAN Marketing/Sales at 1-800-LAN-TALK

ORDERING-PROCEDURE:

Contact LAN Marketing/Sales for nearest sales office on 1-800-LAN-TALK

PROPRIETY-STATUS:

MICOM-Interlan

INFORMATION-UPDATED:

January 1986

3.17. Mitek Systems Corporation

3.17.1. SNA Network Server

PRODUCT-OR-PACKAGE-NAME: SNA Network Server

DESCRIPTION:

The SNA Network Server is a high performance hardware/software set of products which permits the workstations of systems attached to a TCP/IP IEEE 802.3 LAN to connect to an IBM mainframe as SNA3270 or SNA 3770 devices. The system supports 64 LU's of terminal emulation, PC file transfer and API's for both 3270 and 3770. No mainframe software is added or changed.

The SNA Network Server consists of a hardware Control Unit and software (Presentation Services) for the LAN attached computers. The Control Unit is a M68000 based system which connects the LAN TCP/IP 802.3 network to an IBM mainframe as a PU2 device via direct channel attach or via SDLC data link.

Presentation Services is a software applications package which is executed on the LAN attached computers such as VAX, PC's, 3B's, Apollo, Sun or HP to provide network administration and the user interface for SNA 3270 and 3770 emulation. Several enhancement features such as color and extended highlighting are included.

DOCUMENTATION:

Available from vendor

CPU:

M680X0

O/S:

The Control Unit O/S is proprietary. The O/S's supported on the LAN Computers are Berkeley Unix 4.2, VMS, DOS and AEGIS.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Mitek Systems Corp.
2033 Chennault Drive
Suite 100
Carrollton, TX 75006

CONTACT:

Cleve Graves, (214) 490-4090

ORDERING-PROCEDURE:

Available from vendor

PROPRIETY-STATUS:

Proprietary product of Mitek Systems Corp.

INFORMATION-UPDATED:

May 1987

3.17.2. M1010

PRODUCT-OR-PACKAGE-NAME: M1010

DESCRIPTION:

The M1010 is a high performance control unit which permits a customer to attach non IBM products to an IBM Multiplexer Channel. The controller contains an M68000 CPU and DMA in a multibus architecture to support interface to a variety of products as well as bus adaptors, such as PC bus and VME bus. The unit can support up to 16 concurrent data transfers.

Software Development packages, complete documentation, sample program listings, and subroutines are provided to support application development in the mainframe and the controller.

DOCUMENTATION:

Available from vendor

CPU:

M680X0

O/S:

The Control Unit O/S is proprietary. The Control Unit Development System is Regulus, a Unix like Operating System.

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Mitek Systems Corp.
2033 Chennault Drive
Suite 100
Carrollton, TX 75006

CONTACT:

Cleve Graves, (214) 490-4090

ORDERING-PROCEDURE:

Available from vendor

PROPRIETY-STATUS:

Proprietary Product of Mitek Systems Corp.

INFORMATION-UPDATED:

May 1987

3.17.3. M4011

PRODUCT-OR-PACKAGE-NAME: M4011

DESCRIPTION:

The M4011 is a high performance control unit that directly attaches an IBM mainframe multiplexer channel to a DEC DR11W interface for high speed data transfer.

The product includes Mitek Access Method (MAM), a set of subroutines to support the users application development on the IBM system. Complete documentation and sample program listings are provided to assist in the development of the mainframe and DEC software.

DOCUMENTATION:

Available from vendor

CPU:

M68000

O/S:

The Control Unit O/S is proprietary.

IMPLEMENTATION-LANGUAGE:

Proprietary

DISTRIBUTOR:

Mitek Systems Corp.
2033 Chennault Drive
Suite 100
Carrollton, TX 75006

CONTACT:

Cleve Graves, (214) 490-4090

ORDERING-PROCEDURE:

Available from vendor

PROPRIETY-STATUS:

Proprietary Product of Mitek Systems Corp.

INFORMATION-UPDATED:

May 1987

3.18. Mitre Corporation

3.18.1. Mitre NAC

PRODUCT-OR-PACKAGE-NAME: Mitre Network Access Component

DESCRIPTION:

This is Mitre's second generation network controller (see ZILOG-Z8000). Using an expanded hardware base, industry standard backplanes and multiple microprocessor boards, Mitre has built a MCS-68000-based network access component. This network component has both MULTIBUS and VERSABUS form factors and broadband, Ethernet and 1822 network interfaces.

The standard MULTIBUS network component contains an OMNIBYTE-dual-ported 68000, with 128K bytes dynamic RAM, and 96K bytes EPROM, a memory board, and a Bridge serial i/o (SIO) interface board. The SIO board has its own 68000 cpu, 8 serial ports, 4K bytes RAM and 32K bytes ROM. The long-haul network version contains an ACC MULTIBUS-1822 interface. The VERSABUS version supports an ACC VERSABUS-1822 interface. In addition, the VERSABUS version supports an ACC VERSABUS-UNIBUS interface for host-interfacing to DEC machines.

The software is written in 'C' and runs under CMOS, a 'C' version of SRI's Micro Operating System. In addition to supporting TCP, IP, ICMP, and the appropriate network level protocol, the network front-end version (aka a host interface unit for the LAN environment) supports both the DTI-Host-to-Front-End Protocol and a Mitre Network Access Protocol.

DOCUMENTATION:

Some Mitre Technical Reports

CPU:

MCS-68000

O/S:

CMOS

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Mitre Corporation
1820 Dolley Madison Blvd.
McLean, VA 22102

CONTACT:

Manette Charny, (charny@mitre-gateway.arpa), (703) 883-6728

PROPRIETY-STATUS:

Public domain

INFORMATION-UPDATED:

October 1986

3.18.2. Mitre Z8000

PRODUCT-OR-PACKAGE-NAME: MITRE Zilog Z8000

DESCRIPTION:

This network controller is the product of a series of Mitre projects aimed at making network access (both local and long-haul) as straightforward as computer peripheral access. Some of the new microprocessors make it possible to construct a "network controller" that handles the particulars of packet ordering and flow control in the same way that hardware controllers handle the particulars of disk cylinder centerline or an end of tap sensor. This TCP/IP network controller, supported by a Z8000 microprocessor box, is currently interfaced to a number of UNIX systems via a UMC-Z80. The outboard box is accessed by a set of I/O-like management calls (open, close, read, write, and special) which transport TCP requests via a network access protocol.

The outboard box has 64K bytes of Ram, 32 bytes of Rom, a Z8002 micro, and a serial USART (880K BPS max.) All of the software was written in C using an in-house version of the portable C compiler. The unit interfaces as easily to a local network as it does to the DDN. All that is necessary for this conversion is the addition of an ACC-1822 hardware device and a new device driver. Other than different round trip delays, host user-level software sees no difference between the two network devices. The resulting set of Z8000-based building blocks supports host interface unit and a terminal concentrator on the local net.

Performance with TCP/IP has been measured with two user processes talking via TCP/IP over the cable at 350K BPS. Rates as high as 450K BPS occur when user I/O buffer sizes are set at 8K bytes per I/O. The Internet Protocol contains the lowest level of addressing. This allows for local units to be addressed in the same way remote units, two or three networks away, are addressed. The effect of 300 bit TCP/IP headers has negligible impact on performance.

DOCUMENTATION:

Some Mitre Technical Reports

O/S:

CMOS

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Mitre Corporation
1820 Dolley Madison Blvd.
McLean, VA 22102

CONTACT:

Manette Charny, (charny@mitre-gateway.arpa), (703) 883-6728

PROPRIETY-STATUS:

Public domain

INFORMATION-UPDATED:

October 1986

3.18.3. Mitre CMOS

PRODUCT-OR-PACKAGE-NAME: TCP/IP for CMOS systems

DESCRIPTION:

An implementation of Department of Defense (DoD) communication protocols Internet Protocol (IP) and Transmission Control Protocol (TCP) which implement options specified in MIL-STD 1777 and MIL-STD 1778. IP options STREAM, ROUTING, TIMESTAMPS, and new draft SECURITY are implemented. TCP option MAX SEGMENT LENGTH is implemented as well as precedence.

DOCUMENTATION:

MITRE Technical Report "CMOS: A Portable Operating System in C" MTR-84W00071

MITRE Technical Report "DMOS: A Portable Distributed Operating System in C" MTR-85W00206

MITRE Working Paper "TCP/IP Interface Specifications for CMOS Systems" WP-86W00180

MITRE Technical Letter "The MITRE Implementation of MILSTD 1777: The Internet Protocol" (Not Released Yet!)

CPU:

Motorola 68000 or 68010

O/S:

MITRE implementation of CMOS

IMPLEMENTATION-LANGUAGE:

"C" Motorola 68000 assembler on UNIX

DISTRIBUTOR:

The Mitre Corporation
1820 Dolley Madison Blvd.
McLean, VA 22102

CONTACT:

The current contact(s) for the TCP/IP & CMOS distribution tape are:

Manette Charny, (charny@mitre-gateway.arpa), (703) 883-6728 Mailstop: W425 The Mitre Corp (see address above)

Daryl Crandall, (daryl@mitre-gateway.arpa), (703) 883-7278 Mailstop: W429 The Mitre Corp (see address above)

ORDERING-PROCEDURE:

The requester should send to MITRE:

1. 2400 foot reel of 1/2 inch magnetic tape capable of handling 1600 bpi.

2. Letter indicating the following:

   - Who they are
   - What our software is to be used for equipment and operating system being used by them.
   - Tape format desired: only format possible is Berkeley 4.2 UNIX tar, 1600 bpi, and any blocking factor 1 through 20. (20 by default)
   - They agree to the four conditions listed below.

Documents describing the OS and the TCP/IP implementation can be obtained from MITRE document control.

"CMOS, A Portable Operating System in C"
Gilbert R. Berglass
MITRE Technical Report: MTR-84W00071

"DMOS, A Portable Distributed Operating System in C"
Shiraz G. Bhanji
MITRE Technical Report: MTR-85W00206

"Implementation of the BBN 1822 Host-to-IMP Protocol
in a CMOS Environment"
Manette Charny
MITRE Working Paper: WP-84W00223

"The MITRE Implementation of MIL-STD 1777:
The Internet Protocol"
William S. Morgart
MITRE Technical Letter: TL-86W??? (not released yet!)

"TCP/IP" Interface Specifications for CMOS Systems"
Daryl O. Crandall
MITRE Working Paper: WP-86W00180

"TCP/IP" Diagnostic Package for CMOS Systems"
Daryl O. Crandall
MITRE Working Paper: WP-86W??? (not released yet!)

The software is distributed free of charge with the following conditions:

- The MITRE TCP/IP source files won't be passed on to third parties. If someone wants them, have them contact us. We just want to know who has what, and what it is being used for.
- MITRE will be credited should the software be used in a product or written about in any publication. However, MITRE will not be referenced as the source in advertisements.
- MITRE assumes no legal responsibility for source code and its subsequent use. No warranty is expressed or implied.
- If any bugs or problems are found then they should be reported back to MITRE.

NOTE:

It takes a good "hacker" to interpret and install the software provided from this office.

INFORMATION-UPDATED:

October 1986

3.19. Proteon, Inc.

3.19.1. Proteon p4200 Gateway

PRODUCT-OR-PACKAGE-NAME: Proteon p4200 Gateway

DESCRIPTION:

The p4200 gateway is a multiprotocol router, supporting (among other protocols) TCP/IP. It is a complete system consisting of a CPU, memory, and a wide variety of LAN and WAN interfaces. The LAN interfaces include:

- ProNET-4
- ProNET-10
- ProNET-80
- Ethernet

The WAN interfaces include:

- DDN 1822 (LH & DH)
- Synchronous up to 64 kbaud (for DDS)
- Synchronous up to 2.048 Mbaud (for T1)

The hardware is based on a Multibus 68010, with a watchdog timer that prevents hung software from taking the gateway out of service. The unit boots over one or more of the LAN interfaces, using TFTP, to avoid the unreliability of floppy disks.

All configuration information is stored in battery-backed-up static RAM, allowing user-reconfiguration. The support code for the interfaces includes periodic self-testing, so that failed interfaces or networks will be disabled, allowing the routing protocols to find new routes.

The TCP/IP implementation includes support for IP, ICMP, EGP, and presently uses the "/etc/routed" protocol as an internal routing protocol. A server Telnet module allows access to the console capabilities, providing statistics, logging, and tracing capabilities. The IP includes support for subnetting.

Additional protocols can be added to the software, such as DECnet or XNS, to allow one backbone network to serve all of the protocols in use on a given internetwork.

DOCUMENTATION:

Documentation includes full manuals on the software, including all trace messages.

CPU:

68010

O/S:

Compatible with any conformant TCP/IP host implementation

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

PROPRIETY-STATUS:

Proprietary; source code not available

INFORMATION-UPDATED:

February 1987

3.19.2. ProNET-4

PRODUCT-OR-PACKAGE-NAME: ProNET-4 Network

DESCRIPTION:

The ProNET-4 network is Token Passing Ring Network compatible with the IEEE 802.5 standard and the IBM Token-Ring Network standard. It operates at 4 megabits/second over the IBM cabling system or telephone cabling.

There are ProNET-4 network interfaces for:

- IBM PC
- IBM AT
- Multibus
- VMEbus

Future ProNET-4 interfaces will be available for Q-Bus and UNIBUS.

Many of the interfaces are intelligent, incorporating a 68020 processor to perform protocol processing.

TCP/IP implementations will be available for these boards, for a variety of operating systems.

The product line also includes Multi-Station Wire Centers, as well as interfaces supporting fiber optic links.

DOCUMENTATION:

All boards contain installation and programming manuals. Source code of device drivers is available for some boards as programming examples, a program development environment will be available for the intelligent interfaces.

CPU:

Any

O/S:

Any

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

INFORMATION-UPDATED:

February 1987

3.19.3. ProNET-10

PRODUCT-OR-PACKAGE-NAME: ProNET-10 Network

DESCRIPTION:

The ProNET-10 network is a 10 megabit/second Token Passing Ring network providing high performance combined with media flexibility and maintainability. It is a star-shaped ring using Wire Centers to attach nodes.

The media options include:

- Copper (IBM Type 1 and Type 6)
- Fiber optic (multimode fiber, up to 2.5 kilometers/hop)
- Infrared (aerial)
- Microwave (up to 10 kilometers)
- Broadband

These media options may be used on any link in the network, either between wire centers or in the wiring to a node.

There are ProNET-10 interfaces for:

- UNIBUS
- Q-Bus
- Multibus
- IBM-PC and AT
- VMEbus
- Sun VMEbus
- "Universal Bus" (a building block)

DOCUMENTATION:

All interfaces include installation and programming manuals.

CPU:

Any

O/S:

UNIX 4.3 BSD includes ProNET-10/80 device driver (if_vv.c)

Drivers for ULTRIX-32, SunOS

TCP/IP for MS-DOS, VAX/VMS

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

INFORMATION-UPDATED:

February 1987

3.19.4. ProNET-80

PRODUCT-OR-PACKAGE-NAME: ProNET-80 Network

DESCRIPTION:

The ProNET-80 network is a 80 megabit/second Token Passing Ring network providing extremely high performance combined with media flexibility and maintainability. It is a star-shaped ring using Wire Centers to attach nodes. It is usually based on fiber cabling.

The media options include:

- Copper (IBM Type 1)
- Fiber optic (multimode fiber, up to 2 kilometers/hop)

These media options may be used on any link in the network, either between wire centers or in the wiring to a node.

There are ProNET-80 interfaces for:

- Unibus
- Q-Bus
- Multibus
- IBM AT
- VMEbus
- Sun VMEbus
- Gould SelBUS
- "Universal Bus" (a building block)

DOCUMENTATION:

All interfaces include installation and programming manuals.

CPU:

Any

O/S:

UNIX 4.3 BSD includes ProNET-10/80 device driver (if_vv.c)

Drivers for ULTRIX-32, SunOS

TCP/IP for MS-DOS, VAX/VMS

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Proteon, Inc.
Two Technology Drive
Westborough, MA 01581-5008

CONTACT:

Local Proteon sales office; call (617) 898-2800 for number

INFORMATION-UPDATED:

February 1987

3.20. Protocom Devices

3.20.1. Protocom Burroughs PAD

PRODUCT-OR-PACKAGE-NAME: P-Series PAD - Burroughs Poll/Select

DESCRIPTION:

The Protocom P-Series PAD allows you to run a full range of Burroughs Poll/Select equipment over public and private packet switched networks that support CCITT X.25 1980/1984. The P-Series PAD is standard certified for up to 56 Kbps on all products for DDN. The Protocom P-Series PAD involves the TCP/IP protocol. Each P-Series PAD on the network can be monitored and configured remotely. Local area networking is supported via a line interface module for all P-Series PADs. The P-Series PAD comes in 3 versions:

- P250: 15 terminals/printing on 1 Burroughs Poll/Select port (RS-232C)
- P2500: 40 terminals/printing on 4 Burroughs Poll/Select ports (RS-232C)
- P160: 240 simultaneous sessions, a 56 Kbps network port allowing load sharing and call hunting and can functionally realize 7 different multiple protocols

Independently mapped terminal and host addresses permit communication between any terminals and/or printers and any Uniscope host application on the network. Three possible connection methods, two simultaneous user sessions on a single terminal, and host originated calls to shared printers are all supported. TurboMode (Protocoms proprietary data streaming) provides unequal response time. Configurable user screens, mnemonic addressing and user defined function keys are all available.

DOCUMENTATION:

A full set of documentation is available.

CPU:

All Burroughs Poll/Select compatible equipment

O/S:

Burroughs Poll/Select

IMPLEMENTATION-LANGUAGE:

Assembler

DISTRIBUTOR:

Protocom Devices
Federal Systems Group
439 N. Lee St. Square
Old Town Alexandria, VA 22314

CONTACT:

Judy England or Mary Jean Ferrick, (703) 684-0766

ORDERING-PROCEDURE:

Submit purchase order to above address; call contacts for pricing

PROPRIETY-STATUS:

Product of Protocom Devices

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.20.2. Protocom Honeywell PAD

PRODUCT-OR-PACKAGE-NAME: P-Series PAD - Honeywell VIP 7700

DESCRIPTION:

The Protocom P-Series PAD allows you to run Mapper, Demand, Sperrylink and the full range of Uniscope equipment over public and private packet switched networks that support CCITT X.25 1980/1984. The P-Series PAD is standard certified for up to 56 Kbps on all products for DDN. The Protocom P-Series PAD involves the TCP/IP protocol. Each P-Series PAD on the network can be monitored and configured remotely. Local area networking is supported via a line interface module for all P-Series PADs. The P-Series PAD comes in 3 versions:

- P250: 15 terminals/printing on 1 port (RS-232C)
- P2500: 40 terminals/printing on 4 ports (RS-232C)
- P160: 240 simultaneous sessions, a 56 Kbps network port allowing load sharing and call hunting and can functionally realize 7 different multiple protocols

Independently mapped terminal and host addresses permit communication between any terminals and/or printers and any Uniscope host application on the network. Three possible connection methods, two simultaneous user sessions on a single terminal, and host originated calls to shared printers are all supported. TurboMode (Protocoms proprietary data streaming) provides unequal response time. Configurable user screens, mnemonic addressing and user defined function keys are all available.

DOCUMENTATION:

A full set of documentation is available.

CPU:

All Honeywell 77xx compatible equipment

O/S:

VIP 77xx

IMPLEMENTATION-LANGUAGE:

Assembler

DISTRIBUTOR:

Protocom Devices
Federal Systems Group
439 N. Lee St. Square
Old Town Alexandria, VA 22314

CONTACT:

Judy England or Mary Jean Ferrick, (703) 684-0766

ORDERING-PROCEDURE:

Submit purchase order to above address; call contacts for pricing

PROPRIETY-STATUS:

Product of Protocom Devices

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.20.3. Protocom IBM PAD

PRODUCT-OR-PACKAGE-NAME: P-Series PAD - IBM 3270BSC/SNA-SDLC/2780-3780

DESCRIPTION:

The Protocom P-Series PAD allows you to run a full range of IBM equipment over public and private packet switched networks that support CCITT X.25 1980/1984. The P-Series PAD is standard certified for up to 56 Kbps on all products for DDN. The Protocom P-Series PAD involves the TCP/IP protocol. Each P-Series PAD on the network can be monitored and configured remotely. Local area networking is supported via a line interface module for all P-Series PADs. The P-Series PAD comes in 3 versions:

- P250: 15 terminals/printing on 1 synchronous port (RS-232C)
- P2500: 40 terminals/printing on 4 synchronous ports (RS-232C)
- P160: 240 simultaneous sessions, a 56 Kbps network port allowing load sharing and call hunting and can functionally realize 7 different multiple protocols

Independently mapped terminal and host addresses permit communication between any terminals and/or printers and any Uniscope host application on the network. Three possible connection methods, two simultaneous user sessions on a single terminal, and host originated calls to shared printers are all supported. TurboMode (Protocoms proprietary data streaming) provides unequal response time. Configurable user screens, mnemonic addressing and user defined function keys are all available.

DOCUMENTATION:

A full set of documentation is available.

CPU:

All 3270 SNA/SDLC and 2780/3780 functionally compatible equipment

O/S:

VM, MVS, OS370, IMS

IMPLEMENTATION-LANGUAGE:

Assembler

DISTRIBUTOR:

Protocom Devices
Federal Systems Group
439 N. Lee St. Square
Old Town Alexandria, VA 22314

CONTACT:

Judy England or Mary Jean Ferrick, (703) 684-0766

ORDERING-PROCEDURE:

Submit purchase order to above address; call contacts for pricing

PROPRIETY-STATUS:

Product of Protocom Devices

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.20.4. Protocom Sperry PAD

PRODUCT-OR-PACKAGE-NAME: P-Series PAD - Sperry Uniscope

DESCRIPTION:

The Protocom P-Series PAD allows you to run Mapper, Demand, Sperrylink and the full range of Uniscope equipment over public and private packet switched networks that support CCITT X.25 1980/1984. The P-Series PAD is standard certified for up to 56 Kbps on all products for DDN. The Protocom P-Series PAD involves the TCP/IP protocol. Each P-Series PAD on the network can be monitored and configured remotely. Local area networking is supported via a line interface module for all P-Series PADs. The P-Series PAD comes in 3 versions:

- P250: 15 terminals/printing on 1 Uniscope port (RS-232C)
- P2500: 40 terminals/printing on 4 Uniscope ports (RS-232C)
- P160: 240 simultaneous sessions, a 56 Kbps network port allowing load sharing and call hunting and can functionally realize 7 different multiple protocols

Independently mapped terminal and host addresses permit communication between any terminals and/or printers and any Uniscope host application on the network. Three possible connection methods, two simultaneous user sessions on a single terminal, and host originated calls to shared printers are all supported. TurboMode (Protocoms proprietary data streaming) provides unequal response time. Configurable user screens, mnemonic addressing and user defined function keys are all available.

DOCUMENTATION:

A full set of documentation is available.

CPU:

All Sperry Uniscope functionally compatible equipment

O/S:

OS1100

IMPLEMENTATION-LANGUAGE:

Assembler

DISTRIBUTOR:

Protocom Devices
Federal Systems Group
439 N. Lee St. Square
Old Town Alexandria, VA 22314

CONTACT:

Judy England or Mary Jean Ferrick, (703) 684-0766

ORDERING-PROCEDURE:

Submit purchase order to above address; call contacts for pricing

PROPRIETY-STATUS:

Product of Protocom Devices

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

August 1986

3.21. SCOPE

3.21.1. Scope DDN MicroGateway

PRODUCT-OR-PACKAGE NAME: DDN MicroGateway

DESCRIPTION:

The DDN MICROGATEWAY is a single board product which implements the MIL Standard TCP/IP as well as ICMP and lower layer link and network protocols - either FIPS 100/X.25 or 1822/HDH.

Using a Motorola 68008 microprocessor, the DDN MICROGATEWAY provides full-service host support at 56K bits per second, and it will accommodate up to 64 TCP/IP sessions with its shared memory interface.

A companion DDN MICROGATEWAY software product support host TELNET, FTP, and SMTP applications, thus offering a total turn-key solution for certain UNIX operating system environments.

DOCUMENTATION:

A user's manual describes product design and provides information on how to integrate the DDN MICROGATEWAY into the user's host hardware and operating system environment.

CPU:

Single board implementations for MULTIBUS, IBM-PC Bus, VMEBus and Concurrent Computer MUX Bus

O/S:

Board product is not O/S specific. ULPs are based on UNIX 4.2 BSD or UNIX System V. Other O/S's are available

IMPLEMENTATION-LANGUAGE:

TCP/IP, X.25 are in C firmware, embedded in the hardware product; ULPs are in C

DISTRIBUTOR:

SCOPE Incorporated
1860 Michael Faraday Drive
Reston, VA 22090
(703) 471-5600

CONTACT:

Carl Kelly

ORDERING-PROCEDURE:

See above contact

PROPRIETY-STATUS:

Commercially available

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

July 1986

3.22. Software Kinetics, Inc.

3.22.1. X.Calibre Plus

PRODUCT-OR-PACKAGE-NAME: X.Calibre Plus

DESCRIPTION:

X.Calibre Plus package includes hardware and software to provide an interface between a host with TCP/IP and X.25 network. In addition, the X.Calibre Plus provides a software interface to ISO Level 1, 2, and 3 as specified in X.25. The software was implemented following the guidelines of RFC877 for the Transmission of IP Datagrams over Public Data Networks and is compliant with the DDN Standard X.25 Service.

The X.Calibre board contains a 68000 processor, up to 1 Mbyte of ram, two serial ports and a WD2511 X.25 Packet Network Interface to control a third serial port to the X.25 network or line.

Host level software support programs include a board loading utility, a network address table loading utility, a status monitoring utility, and device driver code to support Berkeley sockets and direct access to ISO (X.25) board functions. Current host operating systems supported include 4.2 BSD UNIX and DEC ULTRIX. The device driver is delivered in source form while utilities are binaries.

Board level software support includes interface to Levels 1, 2 and 3 of X.25, queue management, virtual circuit management, diagnostics, statistics, Internet to X.25 address resolution and host level interface. Board level software is delivered as binary that is loaded from the host. Diagnostics and test software for board functions is in ROM.

The X.Calibre Plus Package is available for DEC VAX QBUS and UNIBUS.

DOCUMENTATION:

Installation and Configuration Guide, Programming Guide

CPU:

68000 8Mhz CPU on board product

O/S:

4.2 BSD UNIX and DEC ULTRIX for host; custom O/S for board product

IMPLEMENTATION-LANGUAGE:

C Language for host

C Language and small amount of 68000 assembly for board

DISTRIBUTOR:

Software Kinetics Ltd
65 Iber Road
P.O Box 680
Stittsville (Ottawa)
Ontario, Canada
K1A 3G0

CONTACT:

Product Sales, Software Kinetics, (613) 831-0888

ORDERING-PROCEDURE:

Contact above

PROPRIETY-STATUS:

Software Kinetics Proprietary

INFORMATION-UPDATED:

July 1986

3.23. Spider Systems Limited

3.23.1. SpiderPort

PRODUCT-OR-PACKAGE-NAME: SpiderPort

DESCRIPTION:

SpiderPort with TCP/IP software is an Ethernet based terminal and peripheral concentrator, allowing up to 10 asynchronous devices (e.g. terminals, printers) to access host computers that support TCP/IP and Telnet.

DOCUMENTATION:

User Guide, Administrator's Guide, and on-line help

CPU:

Box based on Intel 80186

O/S:

Proprietary

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Spider Systems Limited
65 Bonnington Road
Edinburgh
EH6 5JQ
Scotland

CONTACT:

Tony Tidswell, +44 (031) 554-9197

PROPRIETY-STATUS:

Spider Systems

INFORMATION-UPDATED:

November 1986

3.24. System Development Corporation

3.24.1. SDC CP8001

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT LAN Network Front End (CP8001)

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The LAN NFE provides access to a broadband LAN for a host computer implementing the DoD Host to Front End Protocol (HFP). The NFE implements HFP, TCP, IP, ICMP, and the LAN access protocol. Connection to the host is via HFP with X.25 LAPB at speeds up to 600 Kbps. The host must implement HFP and any application protocols desired (Telnet, FTP, SMTP). The LAN interface is a proprietary CSMA/CD network access protocol on industry standard broadband cable (CATV) systems. The data rate on each channel of the LAN is 2 Mbps.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Multiple Intel 8086 microprocessors

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

INFORMATION-UPDATED:

February 1986

3.24.2. SDC CP8040

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT LAN Terminal Concentrator (CP8040)

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The LAN TC provides access to a LAN for up to eight asynchronous terminals operating at speeds up to 19.2 Kbps. The TC may also be configured as a Terminal Emulation Processor (TEP) to attach asynchronous ports on a host to the network. The LAN operates using a proprietary CSMA/CD network access protocol on industry standard broadband cable (CATV) systems. The data rate on each channel of the LAN is 2 Mbps. The TC also implements Telnet, TCP, IP, and ICMP, to support terminal communication with other DoD compatible devices.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Multiple Intel 8086 microprocessors

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

INFORMATION-UPDATED:

February 1986

3.24.3. SDC CP8050

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT LAN Terminal Bus Interface Unit (CP8050)

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The Terminal BIU provides a compact, low cost LAN interface for two asynchronous terminals via two RS-232 ports operating at speeds up to 19.2 Kbps. The BIU implements a proprietary CSMA/CD network access protocol on industry standard broadband cable (CATV) systems. The data rate on each channel of the LAN is 2 Mbps. The BIU also implements Telnet, TCP, IP, and ICMP, to support terminal communication with other DoD compatible devices.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Intel 8086 microprocessor

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

INFORMATION-UPDATED:

February 1986

3.24.4. SDC DDN Gateway

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT Long Haul Network Gateway (CP8060)

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The Long Haul Network Gateway interconnects the long haul backbone network of DDN (or any network based on IMP type switches) with a broadband LAN. Dynamic routing is supported using both an internal Gateway-to-Gateway (GGP) protocol with other LAN gateways in the local system, and the DoD External Gateway Protocol (EGP) with the core DDN system. IP, ICMP, and network access protocols are also supported. The LAN employs a proprietary CSMA/CD network access protocol on industry standard broadband cable (CATV) systems. The data rate on each channel of the LAN is 2 Mbps. DDN access may be either local or remote (via modems) using either X.25 or HDH protocols at speeds up to 56 Kbps. The MIL/INT DDN TC has been certified by DCA for DDN access.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Multiple Intel 8086 microprocessors

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

February 1986

3.24.5. SDC LAN Gateway

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT LAN Interchannel Gateway (CP8080)

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The Interchannel Gateway interconnects LAN channels on the same or different cable plants. IP, ICMP, Gateway-to-Gateway (GGP), and LAN access protocols are supported. The LAN employs a proprietary CSMA/CD network access protocol on industry standard broadband cable (CATV) systems. The data rate on each channel of the LAN is 2 Mbps.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Multiple Intel 8086 microprocessors

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

INFORMATION-UPDATED:

February 1986

3.24.6. SDC CP8201

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT Long Haul Network Front End (CP8201)

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The Long Haul NFE provides access to the long haul backbone of the DDN (or any network based on IMP type switches) for a host computer implementing the DoD Host to Front End Protocol (HFP). The NFE implements HFP, TCP, IP, ICMP, and the long haul DDN network access protocols (X.25 or HDH). Connection to the host is via HFP with X.25 LAPB at speeds up to 600 Kbps. The host must implement HFP and any application protocols desired (Telnet, FTP, SMTP). IMP connections may be local or remote (via modems) at speeds up to 56 Kbps. The MIL/INT DDN NFE has been certified by DCA for DDN access.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Multiple Intel 8086 microprocessors

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

February 1986

3.24.7. SDC CP8240

PRODUCT-OR-PACKAGE-NAME: SDC MIL/INT Long Haul Network Terminal Concentrator

DESCRIPTION:

The MIL/INT product line includes network front ends, terminal concentrators, and gateways implementing DoD protocols for both DDN and broadband LANs. The Long Haul Network TC provides access to the long haul backbone of DDN (or any network based on IMP type switches) for up to eight asynchronous terminals operating at speeds up to 19.2 Kbps. The TC may also be configured as a Terminal Emulation Processor (TEP) to attach asynchronous ports on a host to the network. The TC implements Telnet, TCP, IP, ICMP, and the DDN network access protocols (X.25 or HDH). IMP connections may be local or remote (via modems) at speeds up to 56 Kbps. The MIL/INT DDN TC has been certified by DCA for DDN access.

DOCUMENTATION:

Product Specification, Installation Manual, and User Manual

CPU:

Multiple Intel 8086 microprocessors

O/S:

Proprietary realtime OS86 based on secure kernel technology

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

System Development Corporation
2525 Colorado Ave.
Santa Monica, CA 90406

CONTACT:

Technical: Denis Yaro, (213) 820-4111
Sales: Ben C. Barnes, (213) 820-4111

DDN-QUALIFIED:

Yes

INFORMATION-UPDATED:

February 1986

3.25. Tektronix

3.25.1. Tektronix 6130 Workstation

PRODUCT-OR-PACKAGE-NAME: 6130 Intelligent Graphics Workstation

DESCRIPTION:

The Tektronix Model 6130 is a UNIX 4.2 BSD & System V based workstation that has a 32-bit processor, 1 megabyte of parity memory (with 16 MB virtual addressability), 20 megabyte winchester (expandable to 40 or 80 MB), dual RS-232-C interfaces, Local Area Network (LAN) interface and ethernet TCP/IP with Distributed File System (DFS) software and a General Purpose Interface Bus (GPIB) all standard. The system can be expanded with additional disks, interfaces, streamer tape drives and software products.

The 6130 uses the ethernet standard (IEEE 803.2) with Transmission Control Protocol/Internet Protocol (TCP/IP) which handles the communications between a users program and other processes executing on the same workstation, at a different workstation on the LAN, or on a different network. The 6130 supports the File Transfer Protocol (FTP), the Simple Mail Transfer Protocol (SMTP) and the Virtual Terminal (Telnet). Tektronix has implemented a Distributed File System that allows a workstation to access files on other workstations as though they were resident locally. The 6130 can support up to 14 RS-232 terminals although 2 or 3 users per system is recommended.

DOCUMENTATION:

The documentation set that is included with the 6130 consists of ten well written manuals which cover system installation, operations, system administration, and extensive reference material. Over 40 other manuals are available which describe the language compilers, statistical software, spreadsheet programs, and other software and enhancement products.

CPU:

The 6130 uses the National Semiconductor 32000 Family of processors; the CPU is the NS 32016 with the NS 32081 Floating Point Unit.

O/S:

UTek, Tektronix UNIX-based (System V and 4.2 BSD)

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

Tektronix, Inc.

CONTACT:

Local Sales Office or:
Mark Mehall, (503) 685-2275
Tektronix Inc.
P.O. Box 1000 60-770
Wilsonville, Oregon 97070
uucp: {ucbvax,decvax,ihnp4}!tektronix!orca!markm
CSnet: orca!markm@tek, ARPAnet: orca!markm.tek@relay.cs.net
WU Telex: 151754, TWX: 910-467-8707, ITT Telex: 4742109
FAX: (503) 682-3408 GRP III, II Auto

ORDERING-PROCEDURE:

Contact the Local Tektronix Office

PROPRIETY-STATUS:

UTek and the Distributed File System are proprietary products

INFORMATION-UPDATED:

February 1986

3.26. Wollongong Group

3.26.1. Wollongong DDN Host Access Board - MicroVAX

PRODUCT-OR-PACKAGE-NAME: WIN/MicroVX (DDN)

DESCRIPTION:

This is a complete hardware/software TCP/IP implementation which allows any VAX/VMS host to connect to the DDN. Includes Telnet (remote login), FTP (file transfer), SMTP (Mail) Netstat, Finger, TFTP. Supports the DEC DEQNA Ethernet Controller and ACC X.25 interfaces.

DOCUMENTATION:

Installation Guide, User's Guide, Programmer's Guide, Reference Manual, and the WINS TCP/IP Primer provided

CPU:

DEC VAX-11

O/S:

VMS 4.x and greater

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Wollongong Group
1129 San Antonio Road
Palo Alto, CA 94303

CONTACT:

Dave Preston, Wollongong Sales, (415) 962-7200

ORDERING-PROCEDURE:

Available with support from The Wollongong Group

PROPRIETY-STATUS:

Wollongong

INFORMATION-UPDATED:

August 1986

3.26.2. Wollongong DDN Host Access Board - VAX

PRODUCT-OR-PACKAGE-NAME: WIN/VX (DDN)

DESCRIPTION:

This is a complete hardware/software TCP/IP implementation which allows any VAX/VMS host to connect to the DDN. Includes Telnet (remote login), FTP (file transfer), SMTP (Mail) Netstat, Finger, TFTP. Supports the ACC HDH (1822-J) and ACC X.25 interfaces.

DOCUMENTATION:

Installation Guide and User Manual provided

CPU:

DEC VAX-11

O/S:

VMS 3.1 or greater and VMS 4.x

IMPLEMENTATION-LANGUAGE:

C

DISTRIBUTOR:

The Wollongong Group
1129 San Antonio Road
Palo Alto, CA 94303

CONTACT:

Dave Preston, Wollongong Sales, (415) 962-7200

ORDERING-PROCEDURE:

Available with support from The Wollongong Group

PROPRIETY-STATUS:

Wollongong

INFORMATION-UPDATED:

August 1986

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DDN Protocol Implementations and Vendors Guide

August 1987

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DDN Network Information Center
SRI International, Room EJ291
333 Ravenswood Avenue
Menlo Park, CA 94025

PRODUCT-OR-PACKAGE-NAME:

DESCRIPTION:

DOCUMENTATION:

CPU:

O/S:

IMPLEMENTATION-LANGUAGE:

DISTRIBUTOR:

CONTACT:

ORDERING-PROCEDURE:

PROPRIETY-STATUS:

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Menlo Park, California 94025

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